A THESIS<br>SUBMITTED TO THE GRADUATE FACULTY<br>in partial fulfillment of the requirements for the<br>Degree of<br>MASTER OF ARTS

By

ALEXIS McCAUSLIN<br>Norman, Oklahoma 2020

Dr. Joseph Sullivan, Chair

Dr. John te Velde
Dr. Dylan Herrick
© Copyright by ALEXIS MCCAUSLIN 2020 All Rights Reserved.

## Table of Contents

Introduction ..... 1
Overview ..... 1
Chapter 1: Previous Research ..... 2
1.1 Penner and the Migration Route to Oklahoma ..... 2
1.2 Thiessen Dictionary and the Lexical Inventory of PD ..... 2
1.3 Burns' Research and Acoustic Descriptions ..... 4
Chapter 2: Linguistic Background of Mennonite Plautdietsch and a Brief History of the Language ..... 5
2.1 What is the Classification of Mennonite Plautdietsch ..... 5
2.2 A Brief History of Plautdietsch and of its Development ..... 7
2.3 Mennonite Plautdietsch-Speaking Communities in Oklahoma ..... 10
2.3.1 Communities of Fairview, Corn and Collinsville ..... 11
2.3.2 Participant Selection Process ..... 11
2.3.3 Grant County Participants ..... 11
2.3.3.1 Relationship of the Participants to One Another ..... 12
2.3.3.2 How Their Level of Proficiency Affects and or Limits the Scope of my Research ..... 12
Chapter 3: Migration Routes and Personal Narratives ..... 13
3.1 Elicitation Task for the Background Information ..... 13
3.2 The Three Major Migration Routes of Mennonite Plautdietsch Speakers According to Penner and the Oklahoma Participants ..... 14
3.2.1 Origins of the Mennonites According to Penner ..... 14
3.2.2 Origins of the Mennonites According to the Personal Narratives ..... 15
3.3 Comparison of the Origin Cities ..... 16
3.4 First Major Migration According to Penner and the Participants ..... 17
3.4.1 First Major Migration According to Penner ..... 17
3.4.2 First Major Migration According to the Participants ..... 17
3.5 Comparisons of the First Major Migration ..... 19
3.6 Second Major Migration According to Penner and the Participants ..... 19
3.6.1 Second Major Migration According to Penner ..... 19
3.6.2 Second Major Migration According to the Participants ..... 22
3.7 Comparisons of the Second Major Migration ..... 23
3.8 Third Major Migration According to Penner and the Participants ..... 24
3.8.1 Third Major Migration According to Penner ..... 24
3.8.2 Third Major Migration According to the Participants ..... 25
3.9 Comparison of the Third Major Migration ..... 25
3.10 The Route to Kansas According to Penner and According to the Participants ..... 25
3.10.1 The Route to Kansas According to Penner ..... 25
3.10.2 The Route to Kansas According to the Participants ..... 26
3.11 Comparing the Route to Kansas ..... 27
3.12 The Route to Oklahoma According to Penner and the Participants ..... 28
3.12.1 The Route to Oklahoma According to Penner ..... 28
3.12.2 The Route to Oklahoma According to the Participants ..... 29
3.13 Comparing the Route to Oklahoma ..... 29
3.14 Are There Any Major Discrepancies from the Participants' Personal Narratives in Comparison to Penner's Historical Research ..... 30
Chapter 4: Thiessen's Dictionary and Lexical Information ..... 31
4.1 Comparing a few Salient Properties of Historical PD to Standard German: What makes Plautdietsch Unique in Comparison to Standard German ..... 31
4.1.1 /r/ Vocalization has Gained Phonemic Status ..... 32
4.1.2 Palatalization ..... 33
4.1.3 Vowel Differences ..... 34
4.2 Thiessen's dictionary ..... 37
4.2.1 Justifications for Choosing Thiessen's dictionary ..... 38
4.2.2 What are the Limitations of Thiessen's Pronunciation Guidelines ..... 39
4.2.3 Thiessen's PD Sound Inventory ..... 40
4.2.4 What are the Benefits of Thiessen's Extensive Dictionary ..... 42
4.2.5 Recognizing the Limitations of Comparing Spoken Volhynia PD in Oklahoma with Thiessen's Written Form of Plautdietsch ..... 42
4.3 Data Collection/Impressionistic data ..... 42
4.3.1 Participants ..... 42
4.3.1.1 Free Speech Methodology ..... 43
4.3.1.2 Volhynia PD Comparative Word List ..... 44
4.3.1.3 Volhynia PD in Oklahoma Phonemic Inventory ..... 48
4.4 A Comparison of the Historical Plautdietsch According to Thiessen to the Volhynia Variety of PD in Oklahoma Today ..... 51
4.4.1 Consonants ..... 51
4.5 Results of the Lexical Differences Between Historical PD and the Variety of Volhynia PD in Oklahoma ..... 52
4.5.1 Phonemic Reduction ..... 52
Chapter 5: Acoustic descriptions of Mennonite PD Vowels ..... 54
5.1 Overview ..... 54
5.2 My Methodology ..... 54
5.2.1 Participants/Speakers ..... 55
5.2.2 Elicitation tasks ..... 55
5.2.3 Word List ..... 57
5.2.4 Recording Environment ..... 60
5.2.5 Equipment ..... 60
5.2.6 Data Analysis ..... 60
5.3 My Results/Data ..... 63
5.3.1 Speaker-By-Speaker Averaged Vowel Formant Charts and Vowel Plots ..... 63
5.3.1.1 Woman 1 Averages ..... 64
5.3.1.2 Woman 2 Averages ..... 66
5.3.1.3 Man 1 Averages ..... 68
5.3.1.4 Man 2 Averages ..... 70
5.3.2 Variation of /I/ ..... 72
5.3.3 Variation of $/ \varepsilon /$ ..... 74
5.3.4 Behnne vs Bühnne or / $\varepsilon / v s$. /y/ ..... 80
5.3.5 Dispersion of /u/ ..... 82
5.3.6 Similarity of /o:/ and /o:/ ..... 84
5.4 Conclusion: What do my Results/Data say ..... 86
5.5 The Importance of Burns' Research ..... 87
5.5.1 A Quick Critique of the Methodology ..... 87
5.5.1.1 Burns' Speakers ..... 87
5.5.1.2 Burns' Elicitation Tasks ..... 88
5.5.1.3 Burns' Equipment ..... 89
5.5.1.4 Burns' Recording Environment ..... 89
5.5.1.5 Burns' Kansas Results ..... 89
5.5.1.6 Burns' Conclusion ..... 92
5.6 Comparison of Conclusions ..... 92
Chapter 6: Final Conclusions ..... 95
References ..... 103
Appendix A: Word List 1 Given to Participants ..... 99
Appendix B: Tokens Taken from Word List 1: Vowel Elicitation Task ..... 102
Appendix C: Praat Script ..... 105


#### Abstract

This thesis explores the linguistic background and history of the Mennonite Plautdietsch language. It follows the migration route of Grant County Mennonite Plautdietsch speakers in Oklahoma today. It also provides an overview of the lexical inventory of the consonants of the Volhynia Plautdietsch speakers in Oklahoma. Finally, this thesis provides an acoustic analysis of the monophthong vowels of this dialect.


## Acknowledgments

I would first like to thank God for giving me the strength to achieve my academic goals. Second, I would like to thank my husband, Jayson, because without his love and support none of this would have been possible. Third, I would like to thank my mom for helping with my children and also my two friends Andrea and Elliot for their support and help as well. Lastly, I would like to thank all three of my committee members, as their guidance throughout this process has been truly wonderful.

## An Examination of the Volhynian Variety of Mennonite Plautdietsch in Oklahoma Introduction

This thesis explores the history and linguistic background of Mennonite Plautdietsch (PD) in Oklahoma and attempts to describe the origins of the Mennonite Plautdietsch speakers in Grant County, Oklahoma. It will also provide a lexical inventory of the Oklahoma Plautdietsch speakers and an acoustic analysis of the monophthong vowels of the Plautdietsch speakers as well. In addition, the acoustic analysis' results will be examined both individually by speaker and comparatively to one another, in order to demonstrate both the similarities and differences from speaker to speaker.

## Overview

In Chapter One, I give brief summaries of previous research completed for this study to exist. In Chapter Two, I provide an overview of the classification of the language as compared to other West Germanic languages; as well as, an overview of the state of Plautdietsch (PD) in Oklahoma and my participant selection process. In Chapter Three, I will analyze and compare historical sources to better describe migration routes and geographical origins of the participants in Oklahoma. Chapter Four will provide and compare the phonemic inventory of the participants in Oklahoma. This will be compared to that of Thiessen's Mennonite Low German Dictionary (1976). Chapter Five will analyze the phonetic properties of the monophthong vowels of the participants in Oklahoma. In Chapter Six, I will provide the conclusion for each chapter and describe their relation to one another.

## Chapter 1 <br> Previous Research

### 1.1 Penner and the Migration Route to Oklahoma

Tracing the participants' origins would not be possible without having a work like Penner's to compare against. Penner's research describes the three major Mennonite migration routes, their causes, and their dispersions into Kansas and Oklahoma leading to a lack of community cohesion (1976). Additionally, Penner's detailed description of the Mennonite migration routes to Oklahoma does not cover the route of the Volhynian Mennonites. The Mennonites in Volhynia migrated to Kansas and then eventually to Oklahoma.

Penner's research is extensive and robust, even though he focuses mainly on pinning down the exact reasons for the many migrations of the Mennonites. Penner has also managed to trace the lineage of the Mennonites in Oklahoma to their original colony within Russia (present-day Ukraine) during the reign of Catherine the Great. Penner's extensive research on the migration routes of Mennonites who came from New Russia (present-day Ukraine) to Oklahoma has made it possible for this thesis to explore the migration routes traced by Penner. Which colony the Mennonites in Grant County, Oklahoma descend from will be illustrated, thus adding further depth to the many migration routes taken by the Mennonites.

### 1.2 Thiessen Dictionary and the Lexical Inventory of PD

Studying under-documented languages is best done by working with speakers to add to the documentation. Investigating related varieties and dialects that are better documented will assist in this endeavor. In both cases, techniques from historical
linguistics (and sociolinguistics) can be helpful (Ladefoged, 2011). To conduct this study properly, any PD dictionary that does not account for the two main dialects of PD, Molotschna and Chortitza, would leave room for error. It is because of these reasons that the most extensive dictionary for the PD language is that of Jack Thiessen (2003).

Furthermore, Thiessen attempts to account for both dialects. Thiessen has extensive knowledge of loan words in the PD language, from Polish, Russian, Ukrainian, Yiddish, Old Prussian, Swedish, and most recently English. Thiessen refers to PD as Mennonite Low German and states that...
the base of the dialect, however, is in a German dialect-geographical sense Lower Prussian. The loanwords in Mennonite Low German, have been almost exclusively introduced through technological changes brought about by far-reaching migrations; that is, Mennonites frequently came to new countries where they adopted new foods and technology together with the corresponding terms in the respective languages. Examples are 'arbiis' and 'kukerus' in Russia, 'papaya' and 'mango' in Latin America, and 'hot dogs', 'hamburgers', and 'talk shows', that is, 'soap operas', in North America (2003, p. I).

A cognate set based on Thiessen's dictionary compared to the same lexical items from the participants in Oklahoma indicates that the lexical inventory of the Mennonite participants in Oklahoma differs from Thiessen's PD lexical inventory. Furthermore, the cognate set demonstrates phonemic reduction within the dialect.

### 1.3 Burns' Research and Acoustic Descriptions

Rosalyn Burns' research is exceptionally thorough, comprehensive, and unique as a phonetic analysis of vowels of speakers of PD. Burns analyzes the linguistic variation in the pronunciation of PD across different Mennonite speech islands in North America to define the three aspects of its linguistic development: " 1 . The nature of phonetic variation in PD-speaking communities. 2. The role of distance in the diffusion of innovations th(r)ough the long-distance speech community. 3 . The factors that mediate the development of linguistic innovation in the long-distance speech community (p. 1 Burns 2016)." Due to the scope of this research, only the results and aspects of Burns' study that pertain to the participants in Kansas are investigated here.

Furthermore, Burns claims to be able to identify Mennonite PD speakers based on the F1 and F2 properties of their vowels, monophthongs, diphthongs, and triphthongs. I will only discuss the monophthongs of the Kansas speakers from Burns' study. I will also examine her methodology and results from her Kansas speakers, and compare her results to the results of my study in order to demonstrate the differences between our two studies and the dialects of PD.

## Chapter 2

## Linguistic Background of Mennonite Plautdietsch and a Brief History of the Language

Chapter Two of this thesis discusses the linguistic background of Mennonite Plautdietsch and gives a brief history of the language and its speakers. It also discusses the state of Plautdietsch (PD) in Oklahoma today and the participant-selection process.

### 2.1 What is the Classification of Mennonite Plautdietsch

Linguists classify Mennonite Plautdietsch as a Low German dialect of the West Germanic branch of the Germanic language family. The modern Plautdietsch language stems from Dutch and Low German varieties spoken in the Mennonite homeland of the Friesland Triplex around 1530 (Epp1993, Penner 1976, Siemens 2012). The term 'Plaut' or 'Platt' means low. This term refers to the languages originating in the Low Countries (Salmons 2012). It is because of the lower geographical location that PD's roots come from Dutch. The Plautdietsch language is often associated with the Mennonites and their religion (Remple 1994, Epp 1993, McCaffery 2008). Mennonites and their religion are the direct result of the Protestant Reformation. It is because of the Reformation, in the context of which the Mennonites originated, that Mennonites' core religious beliefs became adult baptism, strict separation of church and state, and pacifism (Remple 1995). Mennonites originated in Switzerland; however, it was not until they settled in Friesland, that they started to migrate in mass quantities. Mennonites went through three major migrations starting from within the Friesland Triplex (Flanders, Frisia, and parts of Holland), to Prussia (modern-day Poland), to Russia (present-day Ukraine), and ending in North America during the 1870s.

Thus, modern Dutch and Plautdietsch share phonological similarities. For example, one noteworthy feature of Plautdietsch is that, like other Low German dialects and Dutch, it remains unaffected by the High German Consonant Shift (SS II). Below on Table 1 is an example of sound correspondences between Dutch (DT), Plautdietsch (PD) and Standard German (SG). It shows Plautdietsch's phonological similarities with Dutch, another West Germanic language, and the consonant shifts (SS II) only affecting Standard German. The essence of the SSII in Standard German is that stops become affricates and affricates become fricatives (Salmons 2012).

| Dutch | Plautdietsch | Standard German |
| :---: | :---: | :---: |
| $\mathrm{p} \rightarrow \mathrm{pf} \rightarrow \mathrm{ff} \quad$ 'pijp', 'paard' | 'Piep', 'Pard' ' | 'Pfeife', 'Pferd' |
| $\mathrm{t} \rightarrow \mathrm{ts} \rightarrow \mathrm{ss}$ 'twee', 'Straat', | 'twee', 'Strot' Stroht' | 'zwei', 'Straße' (no shift of [t] after [s]) |
| $\mathrm{k} \rightarrow \mathrm{kh} \rightarrow \mathrm{x}, \mathrm{h}$ 'kok' | 'koake' | 'kochen' |
| $\mathrm{d} \rightarrow \mathrm{t}$ 'dag', 'doen', | 'Dach', 'doone' | 'Tag', 'tun' |

Table 1: DT, PD \& SG Phonological similarities
Table 2 shows examples of the preservation of Dutch and Low German (LG) elements within Plautdietsch today. For example, where in SG past participles mostly begin with [gə] in Low German, they begin with [jo] in PD:

| PD | SG |  |
| :--- | :--- | :---: |
| $[\mathrm{f}, \mathrm{v}]$ | $[\mathrm{b}]$ |  |
| jebuare | geboren |  |
| jefroare | gefroren |  |
| jejäwe | gegeben |  |
| jebroake | gebrochen $\quad$ (no k $\rightarrow$ x) |  |
|  |  |  |
| Some infinitives and nouns: |  |  |
| tjrieje | kriegen |  |
| sinje | singen |  |
| Jebäd | Gebet |  |
| *Jäajent | Gegend |  |

Table 2: Preservations of DT \& LG in PD. Example provided by te Velde (2018).
*Note final devoicing as it occurs in Standard German (Obrien \& Fagan 2016 Ch. 6): [-sonorant] $\rightarrow$ [-voice] / ___ [-sonorant] ${ }_{0}$.

Standard German also influences Plautdietsch. This influence stems from the Mennonite use of Standard German for educational and liturgical purposes (Epp 1993). It also arrives from the Mennonites' time in Russia starting in 1786, under Catherine the Great's rule, and ending in 1870 under Czar Alexander II's (Epp 1993, Penner 1976). During this time, all the Mennonites' official dealings with the Russian government had to be conducted in Standard German due to the Mennonites' unwillingness to learn Russian. They also had to assimilate into Russian society. This was mainly due to Russia's unwillingness to govern the people (whom they invited in to cultivate their lands) in a language that was familiar to these Mennonites (Epp 1993, Penner 1976). It was also during this time that German-speaking teachers from Germany were recruited to help develop the Mennonite schools within Russia (Penner 1976).

### 2.2 A Brief History of Plautdietsch and of its Development

This section presents a brief history of PD and its development. Today the Plautdietsch language is mainly associated with the Mennonites and their culture. Since Mennonites are a product of the Protestant Reformation, they have had to migrate many times to escape persecution (Epp 1993, Penner 1976, Vix 2014). Because of the Mennonites' many persecutions, they undertook three major migrations (Vix 2014), starting from within the Friesland Triplex to Prussia, Prussia to Russia, and from Russia to the Americas (Epp 1993, Penner 1976, Vix 2014). This is largely due to their strict separation of church and state and their abstinence from any violence or military activity whatsoever (Penner 1976, Vix 2014).

The Mennonites migrated to Prussia, around present-day Gdansk, in the late 1500s, and after the death of the founder of the Mennonite religion, Menno Simmons, in 1559 (Epp 1993). This migration resulted in partial linguistic assimilation to the local language, Low Prussian.

In 1789 , the Mennonites began to migrate to "New Russia", which is present-day Ukraine, and stayed there for 70-80 years (Epp 1993). This time in New Russia forged a split between the Old Colony (Chortitza) and the New Colony (Molotschna), which scholars consider the two main colonies (Burns 2016, Epp 1993, Remple 1994, Siemens 2012, Thiessen 2003). After the two main colonies settled, the Mennonites formed daughter, Volga and Volhynia colonies as well (Epp 1993, Siemens 2012). During their time in New Russia, they adopted some of the Russian lexicon (Epp 1993). The first map below shows the route taken by the Molotschna and Chortitza colonies. The second map below shows in yellow the area the Volhynia Mennonites broke off from this main migration and settled.


Map 1: Molotschna \& Chortitza Colonies (Mennonite Historical Atlas: Second Edition)


Map 2: Volhynian Colony, in yellow (Global Anabaptist Mennonite Encyclopedia Online)
The Mennonites' third and last major migration began in the 1870s (Epp 1993, Penner 1976, Schroeder 1996). A third of the Mennonite population, approximately 15,000 to 18,000 people left Russia to come to the U.S. and Canada (Epp 1993, Penner 1976). The Mennonites who settled in Nebraska, Kansas, and Minnesota were of the Molotschna Colony. The Mennonites who settled in South Dakota and in Kansas were of the Volhynia variety (Burns 2016). The Mennonites in Oklahoma primarily migrated from Kansas during the Land Run years. They were of Molotschna and Volhynia colonies (Penner 1976). The 1910 map below shows North-American Mennonite settlements based on church locations, specifically Church of God in Christ.


Map 3: Oklahoma Mennonite Settlements (Source: Mennonite Encyclopedia, v. 1, p. 599) The largest Mennonite settlements in Oklahoma today are in Fairview, Corn, and Collinsville (Kroeker 2000).

### 2.3 Mennonite Plautdietsch-Speaking Communities in Oklahoma

This section gives an overview of the PD-speaking community in Oklahoma. Kroeker estimates that there are 232,000 Mennonites in the United States (2000) and that 6,500 of these Mennonites are in Oklahoma. Furthermore, there are 13 Mennonite Brethren congregations in Oklahoma which make up 54\% of the 6,500 Oklahoma Mennonites, the largest of which are in Fairview, Collinsville, and Corn (Kroeker 2000). These Mennonite communities in Oklahoma are all interconnected because of their shared history. It is hard to say exactly how many members of the MB communities in these three towns can still speak PD today, but it is safe to say that the remaining Plautdietsch speakers today are few.

### 2.3.1 Communities of Fairview, Corn, and Collinsville

Dr. John te Velde and/or I made contact with two of the three large Mennonite communities in Oklahoma. Out of the two communities with which contact was established, only one of the communities in Grant County was able to participate with this study.

### 2.3.2 Participant Selection Process

This next section discusses the participant-selection process so that I can remain transparent with how the study was conducted. It is important to note that no participants were pressured in the process and that none of them were paid. Instead, I will present my findings to them and their community should later when it is convenient for them.

The process of subject selection was not a process at all, but rather a trail of contacts among who was living, willing, and still capable of speaking Plautdietsch today within the Mennonite community. Moreover, the participants in Grant County were ideal for this study. They were mostly native speakers of PD and were willing to help with the study. They were both physically and mentally able to sit for extended periods of time to be interviewed and recorded.

### 2.3.3 Grant County Participants

For this research project, eight participants located in Grant County were consulted. They are from the same congregation, and can communicate in PD. Notably, only six of the speakers were native speakers of PD. The two non-native speakers learned PD later in life, but were well adept at communicating in PD. Only four of the six native speakers were able and willing to tell stories about their childhood, about visitors from other PD-speaking communities, about recipes, and to talk with one another, or sing songs from their past.

### 2.3.3.1 Relationship of the Participants to One Another

All the native speakers stopped speaking PD from ages five to eight. All grew up within the same community and were related in one way or another. For example, two of the women were sisters married to brothers. The issue with this, is getting family specific language instead of PD specific. As Ladefoged points out, this is important to note regarding linguistic reinforcement of features through familiar standards (2003).

### 2.3.3.2 How Participant Proficiency Affects and or Limits the Scope of My Research

The level of proficiency will be discussed in order to maintain the transparency of the study. In an ideal world, I would have had anywhere from 12-20 participants (Ladefoged 2003), and ideally more, if possible. Sadly, among the Oklahoma Mennonites, there are not that many PD speakers to be found. I was only able to locate eight participants from this particular speaking community of PD in Grant County, Oklahoma that met the criteria for this particular study. Furthermore, of the eight participants, most of them have not spoken PD on a regular basis inside the home for decades. These are the few remaining speakers from this community with the ability to understand one another in PD. Due to this fact, multiple visits had to be made to the community in order to elicit enough data for this thesis. The reason for this, is because the speakers were a bit rusty, and simply needed some extra time to get used to Dr. te Velde, myself, and the idea of speaking PD with us.

## Chapter 3

## Migration Routes and Personal Narratives

Chapter Three of this thesis attempts to explain and compare the origins of the Mennonite participants in Oklahoma to that of Penner's historical research. To the extent of my knowledge, Penner's research is by far the most detailed and extensive study of the Mennonites' migration routes across Europe, the Americas and is one of the only ones specifically focusing on settlements in Kansas and Oklahoma. According to Penner, the Mennonites in Oklahoma that settled Cheyenne-Arapaho country should be of the Molotschna variety. In this section, I review my participants' personal narratives and genealogical research that suggests that their community is not of the Molotschna variety but instead of the Volhynia variety.

### 3.1 Elicitation Task for the Background Information

As part of the linguistic research of this study, I asked the participants if they knew anything about the origins in Russia (Ukraine), that is, if they knew any family stories or the history of their ancestors. They were also asked if they could trace their family migration routes to Oklahoma from Kansas. Instead of giving a verbal answer, the participants pulled out an extensive family genealogy book that had been thoroughly researched for many years. This genealogy book traces their family roots back to what they considered to be the origins of the Dutch Mennonites in Holland during the $16^{\text {th }}$ century. The participants were able to describe and name the ship upon which their ancestors traveled to the US. The participants even claimed that they could trace the origins of their family name; as well as, the use of multiple spellings. This was done using historical documents, such as, log information from Elis Island, providing links to their ancestral
immigration status. They also utilized works such as, The Martyrs' Mirror, and other church documents which have been well preserved. However, there was room for error because of the destruction of some of the original documents. They were careful to note that many of the documents had been destroyed, and some of the evidence had been passed down only through verbal history in their family.

### 3.2 The Three Major Migration Routes of Mennonite Plautdietsch Speakers According to Penner and the Oklahoma Participants

I next map out the Mennonites' development and migrations across Europe and North America. Section 3.2 starts first with the origins of the Mennonites, then heads into the first migration. After that, it covers the second and third migrations, and then concludes in Oklahoma.

### 3.2.1 Origins of the Mennonites According to Penner

This section details the origins of the Mennonites according to Penner's research. The Mennonite religious movement originated from the teachings of Anabaptist reformers from Switzerland in the mid-16th century (Penner 1976). These leaders constituted a radical wing of the reformation movement. Under persecution from edicts threatening death, these Swiss leaders fled north- and eastward throughout Central Europe and the Netherlands, spreading their Anabaptist message (Epp 1993, Penner 1976). This was widely accepted due to Roman Catholic oppression (Schroeder \& Huebert 1996 p. 112).

In 1536, Menno Simons, the namesake for the religious movement, publicly denounced the Catholic Church and was baptized anew by Obbe Phillips (Penner 1976). Simons then worked to spread his message across North-central Europe despite persecution and a bounty put upon his head by Emperor Charles V (Epp 1993, Schroeder \&

Huebert 1996). Simons gained a substantial following of people who then called themselves the Mennonites (Epp 1993, Penner 1976). They formed many congregations in Northern Europe and reached a sizable percentage of the population, especially in the Friesland Triplex (Epp 1993, Schroeder \& Huebert 1996). The Mennonites soon adopted migratory patterns as they fled between Northern European areas where local leaders occasionally showed tolerance (Schroeder \& Huebert 1996). This information is detailed below in Map \#4 in section 3.6.1.

### 3.2.2 Origins of the Mennonites According to the Personal Narratives

This part of the thesis details the origins of the Mennonites according to the participants' recollections and their genealogy book. The Oklahoma Volhynia Mennonites claim that the origins of their religion started first in Switzerland and the Netherlands in 1525 (Epp 1993, Penner 1976). Then, due to persecution in Switzerland, the Mennonites sought out refuge in the areas of Alsace, Lorraine, South-Germany, Tyrol, Moravia, Romania, Volhynia, Galicia, Ukraine, East Prussia, The Netherlands and Pennsylvania. This account of the spread of the Swiss Mennonites corresponds to Penner's research (1976) (Epp 1993).

My participants claim that their roots are specifically tied to the Mennonites in the city of Groningen (part of the Friesland Triplex) (Epp 1993). Groningen was in the northeastern part of Holland during the 16 ${ }^{\text {th }}$ Century (Epp 1993, Penner 1976, Siemens 2012). Additionally, Holland was under the rule of Charles V, a Hapsburg Catholic king, during this time (Epp 1993, Penner 1976). Their self-titled name, Dutch Mennonites, is a combination name referring to their origins in Holland and with Menno Simmons; the Catholic Priest who denounced his faith on January $30^{\text {th }}, 1536$, and joined the Anabaptists
(Epp 1993, Penner 1976). These particular Anabaptists are now referred to as Mennonites after this man's name (Epp 1993, Penner 1976, Schroeder \& Huebert 1996).

The participants were able to trace their family name, Schmidt, to the time of Menno Simmons while he was being persecuted and hunted down as a fugitive by the Catholic Church (Epp 1993, Siemens 2012). Specifically, the Schmidt family was linked to an execution through their ancestral family name which took place on March $20^{\text {th }}, 1549$. Their ancestor was burned at the stake along with seven other men and two women. All of them were followers of the Mennonite religion. It was due in large part to executions like this that the Mennonites sought out more favorable treatment in West Prussia (Epp 1993, Penner 1976). Seeking out more favorable treatment sparked the first major mass migration of the Mennonites (Epp 1993, Penner 1976). This information is detailed in Map \#5 shown in section 3.6 .2 below.

### 3.3 Comparison of the Origin Cities

This section compares both Penner's research and the participants' research of the origin cities of the Mennonites. Comparing the origins according to Penner, to that of the participants detailed in Maps \#4 and \#5 yield few differences at this time. Indeed, one can see that the origins of the Mennonites, according to Penner (1976), and the participants' history are similar. The main difference is the name and location of the origin cities listed. Both seem to agree on the location in Switzerland. However, according to Penner, the Dutch city is Leeuwarden, and the participants have concluded it is Groningen. This is around a 40-mile difference. Overall, other than the city names appearing differently but within reasonable distance from each other, the research appears to be similar between

Penner and the participants. This means that there were two different settlements in the Netherlands and not merely just one.

### 3.4 First Major Migration According to Penner and According to the Participants

This section details the first major migrations of the Mennonites according to
Penner's research and that of the participants.

### 3.4.1 First Major Migration According to Penner

Next, I detail Penner's research on the first major migration of the Mennonites. Due to ongoing persecution by the Catholic influence of Spain in the Netherlands under Charles V and Philip II, the Mennonites commenced their first of three mass migrations in the mid16th century (Epp 1993, Penner 1976). Invited by Prussian Noblemen in 1562, Dutch Mennonites migrated to, and settled in the areas around the Vistula-Nogat delta on the Baltic Sea in modern-day Poland (Penner 1976). They expanded their settlements up-river as far as Warsaw and eastward along the Baltic Sea to Tilsit. They prospered in Prussia with religious freedom as a unified political entity until an edict from the Prussian emperor barred the purchase of land by Mennonites and spurred the second migration in 1789 (Epp 1993, Penner 1976, Schroeder \& Huebert 1996). At this point, there were around 12,000 Mennonites in the Vistula delta area (Penner 1976). This information is detailed in Map \#4 below at the end of section 3.6.1.

### 3.4.2 First Major Migration According to the Participants

Now I recount the participants' perspectives and their research on the first major migration. The family noted that Plattdeutsch (Plautdietsch) was the language used by their Dutch Mennonite ancestors daily and that Dutch was used as a liturgical language in church. After the migration into Prussia, High German (Standard German) replaced the

Dutch in church services (Epp1993). According to the participants' personal research, the first Mennonite village in West Prussia was in Przechowa (Wintersdorf), approximately 65 miles south of Danzig, and settled in 1540.

It should be noted that the family name Schmidt appears in church records in the city of Danzig in 1568. The reason that this record is so important is that it is also a popular name for the Dutch Mennonites who migrated to West Prussia under the invitation of King William Frederick II in order to drain and work the swampy lands of the Vistula (Penner 1976). Because of problems with the land near the Vistula, and harassment from their neighbors, a group of 35 Mennonite families from Przechowka decided to accept an offer from King Frederick's counselors to settle and clear the area near the Netze Valley. Additionally, this group of Mennonites established the Brenkenhoffswald, Franztal, and Neu Dessau villages. Among this group of 35 families, appears the surname Schmidt.

Notably, the Mennonites were able to escape the persecutions of the Spanish government in Holland but life under the rule of King Frederick II (1740-1786) would also prove to be difficult (Epp 1993, Penner 1976). Furthermore, the Mennonites in West Prussia did not attain the religious freedom they thought they would enjoy. Instead, they faced many persecutions and setbacks from the Catholic and Lutheran churches. These hardships and persecutions lead to another mass migration. This information is shown in Map \#5 in section 3.6.2.

### 3.5 Comparisons of the First Major Migration

This section compares the first major migrations according to Penner with the participants' accounts. According to the participants' personal research, the first Mennonite village was Przechowa (Wintersdorf), about 65 miles south of Danzig in West Prussia,
which was settled in 1540. This is a similar area to what Penner stated as the Vistula-Nogat delta areas, though he does not explicitly name a city and provides the date of 1562 (1976). This means that Penner's research shows a 22-year difference for the first Mennonite villages settled in West Prussia compared to the research of the participants' ancestors. Penner then writes that the Mennonites expanded their settlements up-river as far as Warsaw and eastward along the Baltic Sea to Tilsit (1976). However, the participants claim that their ancestors' settlements expanded into the Netze Valley. This expansion would have been westward from Warsaw. Therefore, after comparing the first major migration, it appears as if the participants' ancestors are arriving 22 years earlier to the first settlement area(s). It also looks like the Mennonites who eventually migrated to Kansas and Oklahoma are spreading out more westward than eastward, as Penner's research suggests (1976).

### 3.6. Second Major Migration According to Penner and the Participants

This section details the second major migration according to Penner and the participants.

### 3.6.1 Second Major Migration According to Penner

This section details Penner's research on the second major Mennonite migration. The second Mennonite migration began as Catherine the Great (1762-1796) made lands available for the Mennonites in modern-day Ukraine (Epp 1993, Penner 1976). The Mennonites migrated in several waves between 1786 and the mid-19th century (Epp 1993, Penner 1976). The first wave of this migration began in March of 1788 with eight families leaving Danzig headed towards Dubrowna, and by fall 1788 over 288 families had arrived at Dubrowna and wintered there (Penner 1976). The Mennonites then established their first colony, called Choriz, by the Chortitza River, and from there, established their official
second colony further south on the Molotschna river and called it the Molotschna colony (Epp 1993, Penner 1976). In 1804, around 288 families left Prussia for the Chortiz colony; in 1808 an additional 99 families, and by 1820 another 215 families (Penner 1976). Notably, only 400 of these families stayed in Chortitza, while the rest moved further south to the Molotschna colony (Penner 1976). By 1840, there were 740 families established in the Molotschna colony (Penner 1976). Thereafter, due to the rapid growth of the two colonies, the Mennonites outgrew their land allotments and established several daughter colonies (Penner 1976). The migrant Mennonites' first colony was in Bergthal and it was established in 1845. Later, they established 45 other colonies in Ukraine, Crimea, Caucasus, south-central Asia, and Siberia (Epp 1993, Penner 1976). The Mennonite population enjoyed economic advantages and fertile farmland (Schroeder \& Huebert 1996). Therefore, the population grew rapidly and in the 1870s by approximately 100,000 Mennonites inhabited Eastern Europe, occupying almost 3,000,000 acres (Penner 1976).

The Mennonite settlers enjoyed religious freedom, wealth, and autonomy over their own education systems during their time in Russia (Epp 1993, Penner 1976). During this time, local Russians often saw the Mennonites as too prosperous in Russia. Russian officials would often resort to extortion when dealing with the communities. Due to the Mennonites' pacifistic nature, they would ultimately give in and pay off all the Russian government exploiters, hoping to avoid any future conflict, and to retain religious freedom (Epp 1993, Penner 1976). After a bevy of miscommunication and mistrust between the Mennonites and Russian government, two key policy reforms were implemented (Epp 1993, Penner 1976). These two reforms affected most aspects of the Mennonites daily lives (Epp 1993, Penner 1976). The first was an education reform that stipulated that no
settlers, whether Mennonites or not, would be allowed any autonomy over their education systems. All schools would be run by the overbearing Ministry of Education. Teaching in Russian was compulsory, meaning no more religious texts, and no more German or PD was allowed at school. The second reform from the Russia government was the compulsory inscription into the Russian military. This contradicted the Mennonites' key teachings of pacifism (Epp 1993). These reforms, along with the years of abuse from the Russian government, would spark the Mennonites' third major migration. This information is shown in Map \#4 below.


[^0]
### 3.6.2 Second Major Migration According to the Participants

Once more the Mennonites were on the migration route. This was spurred by the hostile environment they faced in West Prussia, and by an invitation from Czaress Catherine the Great of Russia, to settle the area of (modern-day) Ukraine (Epp 1993, Penner 1976). According to the participants' research, it appears that the Schmidt family (of the 35 families that had earlier settled near the Netze Valley in West Prussia) took the opportunity presented to them and migrated in the early 1800 's. The Schmidts eventually settled near Ostrog (the Volhynia region of Ukraine) approximately 100 miles west of Kiev, despite other families carrying on and settling 500 miles further south in Russia (modernday Ukraine) (Epp 1993, Penner 1976). Moreover, by the year 1821, there were a total of 38 families in the two main villages of Karlswalde and Antonofka in the Volhynia region. In other words, the Schmidt family never made it far enough into Russia (Ukraine) to be considered a part of the two main colonies of Molotschna and Chortitza.

The Mennonites seemed to prosper and flourish in their new homelands until 1870 when Catherine's successor, Czar Alexander II, issued an order that ended the special privileges of the Mennonites (Epp 1993, Penner 1976), thereby limiting the Mennonites' ability to use their own language in school. They would be forced to speak and learn Russian. In one decade, they would be forced to become citizens and be subject to mandatory military conscription, thus prompting another mass migration of the Mennonites (Epp1993, Penner1976). This information is shown in Map \#5, based on the personal narratives of the participants.


## Map \#5: European Migration Route as Reported by my Participants

### 3.7 Comparisons of the Second Major Migration

Now I compare the differences between Penner's research and the participants' in regard to the second major migration. Comparing the information given by Penner and that of the participants, it is obvious the accounts of the second major Mennonite migration differ greatly. I focus only on the main differences. For example, Penner states that the Mennonites migrated in several waves between 1786 and the mid-19th century (1976) (Epp 1993). The first wave of this migration began in March of 1788 with eight families leaving Danzig heading towards Dubrowna and wintering there. The Mennonites then established their first main colony by the Chortitza River. Their second main colony further south on the Molotschna River (Epp 1993, Penner 1976). This differs from the accounts of the participants' ancestors in the Netze Valley. They report migrating in the early 1800's, eventually settling near Ostrog (the Volhynia region of Ukraine) approximately 100 miles
west of Kiev. This places their settlement 500 miles north of the two main colonies (Epp 1993, Penner 1976). In other words, the ancestors of the Schmidt family never made it far enough into Ukraine to be considered one of the two main colonies. Therefore, they cannot be of the Molotschna or Chortitza variety of Mennonite Plautdietsch speakers.

### 3.8 Third Major Migration According to Penner and the Participants

This next section details the third major migration according to Penner and the Participants.

### 3.8.1 Third Major Migration According to Penner

The third Mennonite migration from Russia to the Americas took place between 1874 and 1880 (Epp 1993, Penner 1976). The Mennonites migrated chiefly to Canada and the midwestern United States (Epp 1993, Penner 1976).

Epp and Penner estimate that around 18,000 Mennonites came over in the first wave of migrations to the Americas $(1993,1976)$. The majority of the Molotschna migrants of this group settled primarily in Minnesota, Nebraska, and Kansas (Penner 1976). The majority of the Chortitza and rest of the Molotschna settled in Manitoba (Epp 1993).

Penner has accurately described the exact route of the group that settled in Kansas:
At 6 pm on July 22 ${ }^{\text {nd }}, 1874$, their train left the station at Prischip, the nearest railroad to the Colonies. Their route paralleled the line of March of Napoleon's retreating army of 1812. At 7 o'clock on the evening of July $27^{\text {th }}$ they arrived at Werbalowa, the border of Prussia. Here they had their physical examinations, exchanged currency and had the shock of changing from the Old Style Russian, July 27, to August 8, to be in step with the rest of the world. They eventually arrived in Berlin on August $10^{\text {th }}$ at 9 am, and at Hamburg at 9 pm. reaching their goal of the European Journey. During their 5-day stay they paid 40 dollars per person for their passage to America and exchanged money one more time to the American dollar.
Early on the morning of Aug. 16 they boarded a small ship and at noon were transferred by steam ship Teutonia that was to take them to America. At 2:30 pm Sept $2^{\text {nd }}$, the Teutonia entered New York Harbor and at 6 pm the passengers disembarked (Penner 1976 p.83).

### 3.8.2 Third Major Migration According to the Participants

On December $4^{\text {th }}, 1874$, over 115 Mennonite families left the Ostrog area in Ukraine for the Americas on six different ships. Of the 115 families, 13 had the same last name, Schmidt, and all these Schmidt families traveled on the S.S. Vaterland, which carried the single largest group of Mennonite immigrants to America. They arrived on December 25 ${ }^{\text {th }}$, 1874 in Philadelphia, Pennsylvania.

### 3.9 Comparison of the Third Major Migration

Again, I compare the main differences between Penner's historical research and that of the participants in Oklahoma. Noticeably, the first difference is the name of the colony Molotschna, the second is the date from which the first wave of Molotschna Mennonites fled from Ukraine, and the third is the name of the ship on which they sailed to America. Penner states that the first wave of Mennonites left on July $22^{\text {nd }}, 1874$. They then sailed to America on a ship called the Teutonia, landing in New York Harbor on September 2 ${ }^{\text {nd }}, 1874$ (1976).However, the participants claim that their ancestors, who are of the Volhynia Mennonites, left on December 4 ${ }^{\text {th }}, 1874$, arriving on December $25^{\text {th }}, 1874$ in Pennsylvania and that they sailed on the S.S. Vaterland. Again, the participants in Oklahoma cannot be of the Molotschna variety as none of these three key factors align: the date when the Mennonites left Ukraine; the date and location they arrived in the United States; and the name of the ship on which they sailed.

### 3.10 The Route to Kansas According to Penner and the Participants

Section 3.10 details the route of the Mennonites into Kansas as laid out by Penner's research and that of the participants.

### 3.10.1 The Route to Kansas According to Penner

According to Penner,
...two days later, on Sept $4^{\text {th }}$, they were on a train bound for Topeka Kansas arriving on Sept $8^{\text {th }}$. Their trip lasted a total of 37 days, with half of that being aboard a ship or train. They then had to travel to mid-Kansas. By mid Aug. 1874 they began laying out their villages. They build their first village near Mcpherson/in Mcpherson named Gnadenau (1976 p. 84-86).

The Mennonites settled in Kansas and established congregations. Subsequently, other Mennonite groups built their villages around Newton, Kansas. Then they spread towards Hutchinson, and the towns of Moundridge, Hesston, Halstead, Buhler, and Inman (Penner 1976). See Map \#6 below adapted from Penner's research.


## Map \#6: The Route to Oklahoma According to Penner

### 3.10.2 The Route to Kansas According to the Participants

According to the participants, all the Mennonites from the S.S. Vaterland moved as a group to Kansas during that first winter. Moreover, this group was not prepared for the harsh winters in Kansas, and was unable to settle that winter, and had to be temporarily
boarded in Florence, Kansas. Furthermore, the Schmidt families were not able to settle on their plots that were purchased in Canton, Kansas until June 1878. This information is detailed in Map \#7, shown below and based on the personal narratives of the participants.


## Map \#7: Route to Oklahoma According to the Participants

### 3.11 Comparing the Route to Kansas

Once again, comparing Penner's research on the Mennonites route to Kansas to that of the participants demonstrates more differences. Penner states that by August 1874 the Molotschna Mennonites were able to settle the area of McPherson, Kansas. He lists Newton, Hutchinson, Moundridge, Hesston, Halstead, Buhler, and Inman, Kansas as settlements of this group of Molotschna Mennonites. However, according the participants' research, their ancestors were not able to continue to their settlement right away. Instead, they had to board in houses in Florence, Kansas and eventually settled Canton, Kansas in 1878. This is a
four-year discrepancy of the years the settlements were established, and a difference of about 20 miles.

### 3.12 The Route to Oklahoma According to Penner and the Participants

Section 3.12 details the routes of the Mennonites from Kansas into Oklahoma according to both Penner and the participants.

### 3.12.1 The Route to Oklahoma According to Penner

This section details the route into Indian Territory from Kansas according to Penner. After sending missionaries to Indian Territory (present-day Oklahoma) in 1881, the Mennonites in Kansas became aware of territory which was to become available for settlement (Penner 1976). Because of this, many Mennonites were familiar with the area of Indian Territory before it became open for settlement.

Word traveled swiftly to the Mennonite communities in Kansas that land in southeastern Oklahoma would soon be opened for settlement. "At noon on April 19th, 1892, the lands were opened with a Run. Some 25,000 persons took part, a rather small number compared to the 100,000 taking part in the Cherokee Outlet Run a little over a year later (Penner 1976)." However, unlike other eventual settlers, the Mennonites did not participate in the original run. They took their time while surveying the lands to make a more educated and deliberate choice (Penner 1976). There were six new counties: C, D, E, F, G, and H. The last two, later named Custer and Washita, became the area that attracted the Mennonites from Kansas.

Furthermore, most of the Mennonites that settled along the Washita came from central Kansas, specifically from Buhler, Newton, Hillsboro, and neighboring communities (Penner 1976). According to Penner, this area that the Mennonites settled was more
precisely in the Cheyenne-Arapaho territory (1976). See Map \#6 in section 3.10.1 above and adapted from Penner's research.

### 3.12.2 The Route to Oklahoma According to the Participants

This section details the route of the participants' ancestors from Kansas to Oklahoma. In 1882, some of the Mennonites from Canton Kansas began to look for land in Oklahoma. The lands in Oklahoma were not opened for settlement until 1892. This occurred at the same time the other Mennonite groups from the McPherson area were sending missionaries to Oklahoma (Penner 1976). It is unclear whether they migrated before or after the Oklahoma Land Runs, but the Schmidt families eventually settled in and around Grant County, Oklahoma. This information is shown in Map \#7 in section 3.10.2 above based on the personal narratives of the participants.

### 3.13 Comparing the Route to Oklahoma

This last comparison between Penner and the participants' research concerns the differences of the Mennonites routes from Kansas to Oklahoma. According to Penner, it was not until after the Land Run (1892) when the Mennonites from central Kansas's settlements-Buhler, Newton, Hillsboro and other nearby communities-surveyed land in Oklahoma and settled in the Custer and Washita Counties (1976). This area is known as the Cheyenne-Arapaho Territory (Penner 1976). According to the participants, their ancestors started looking towards Oklahoma in 1882. It is unclear whether they started settling at that time, that is, during the Land Runs, or after the Land Runs. However, their ancestors did settle the area around Grant County, Oklahoma. This area is not located in CheyenneArapaho Territory. It is much further north, approximately 133 miles from Grant County, Oklahoma to Custer County, Oklahoma and 266 miles from Grant County, Oklahoma to

Washita County, Oklahoma. In other words, the dates are not exact on when the two different groups of Mennonites settled in Oklahoma, rather the areas are hundreds of miles apart.

### 3.14 Are There any Major Differences from the Participants' Personal Narratives in Comparison to Penner's Historical Research

After extensively reviewing the participants' research and comparing that against Penner's research, I conclude that the participants in Oklahoma are of the Volhynia variety of Mennonites. This is due to several discrepancies between the participants' research and that of Penner. Although there were many similarities such as the origins of the Mennonites and the first areas in which they settled in West Prussia, the differences in locations, times and dates of migrations cannot be ignored.

As previously pointed out, in the second mass migration of the Mennonites, the participants' ancestors never made the stop in Dubrowna nor did they make it another 500 miles into Ukraine, to be considered part of either two main Colonies, Molotschna and Chortitza. They instead settled the area of Volhynia and did not leave until the third mass migration. During the third major mass migration, their ancestors not only left at different times of the year, but rather they sailed to America on different ships and landed in different locations. They then report to have settled in Kansas at different times and in different locations.

This suggests that they are, in fact, considered to be Volhynia Mennonites. This also suggests that their dialect would likely be different than that of the Molotschna and Chortitza Mennonites since they never settled those areas in Ukraine. Plautdietsch scholars have extensively studied both the two areas and dialects of Molotschna and Chortitza throughout history.

## Chapter 4

## Thiessen's Dictionary and Lexical Information

Chapter Four compares historical PD to Standard German. This comparison is done to guide the reader on what to expect when studying a Germanic dialect that has not undergone the High German Consonant Shift. This chapter also provides an overview of the phonemic inventory of both historical PD according to Thiessen and of the Volhynia variety in Oklahoma. I then compare the two together specifically focusing on the consonants. This comparison attempts to explain the differences between historical PD and the Volhynia variety in Oklahoma.

### 4.1 Comparing a Few Salient Properties of Historical PD to Standard German: What Makes Plautdietsch Unique in Comparison to Standard German

This section details three major differences between historical PD and Standard German, regarding the High German Consonant Shift. These differences guide the reader in what to expect when studying a dialect like PD. As mentioned before, Plautdietsch did not undergo the High German Consonant Shift (SS II). According to Salmons, the SSII is often described as a phonological development or sound change that took place in the central and southern parts of the West Germanic dialects. This sets them apart from other dialects such as Dutch and Low German (2012 p.112). "The basic principle phonetic/phonological dynamic of the SSII is this:

| Stops become | affricates become | fricatives |  |  |
| :---: | :---: | :---: | :---: | :---: |
| p | $\rightarrow$ | pf | $\rightarrow$ | f |
| t | $\rightarrow$ | ts | $\rightarrow$ | s |
| k | $\rightarrow$ | kx | $\rightarrow$ | x |

Table 3: Examples of SSII (Salmons 2012 p.112).
Clearly, this non-compliance with the SSII would greatly affect not only the appearance of written Plautdietsch but also its overall pronunciation in comparison to Standard German. Below is an example of a few German and Plautdietsch cognates in which the lack of SSII is demonstrated; all words were adapted from Jack Thiessen’s Mennonite Low German Dictionary (2003).

| Plautdietsch | Standard German | English gloss |
| :--- | :--- | :--- |
| Peat | Pferd | 'horse' |
| Piep | Pfeife | 'pipe' |
| twee | zwei | 'two' |
| Strot | Straße | 'street' |
| Kaun | Kanne | 'pot' |
| Käk | Kuchen | 'cake' |
| Dach <br> doone <br> daut | Tag | 'day' |
|  | tun | 'do' |
| das(s) | 'that' |  |

Table 4: Non-compliance with SSII (Thiessen 2003)

### 4.1.1 /r/ Vocalization has Gained Phonemic Status

Standard German and Plautdietsch both have /r/ vocalization, however, in Plautdietsch R-vocalization has been eliminated as a phonological rule, with [ e ] becoming part of the orthography as <a>, presumably with phonemic status, meaning that native speakers perceive <a> as the sound $[\mathfrak{e}]$ at the end of a syllable. Additionally, Thiessen points out that [a] is vocalized as $[\mathrm{e}]$ at the end of a syllable and gives the example of the
word 'Voda', pronounced as [vo:de ] meaning 'father' in English. This is the same environment in which R-vocalization occurs in Standard German, /er/ $\rightarrow[\mathfrak{e}] / \ldots \ldots \mathrm{C}_{0} .{ }^{1}$ (Obrien, Fagan 2016). This environment was also observed when interviewing the Volhynia Plautdietsch speakers in Grant County, Oklahoma, as mentioned by Thiessen in his Mennonite Low German Dictionary (2003). Example words in Table 5 were adapted from Jack Thiessen's Mennonite Low German Dictionary (2003).

|  |  |  |
| :--- | :--- | :--- |
| Plautdietsch | Standard German | English gloss <br> beta |
| hosser | hart | 'better' |
| lieda | leider | 'hard' |
| meea | mehr | 'sorry, unfortunately' |
| Peat | Pferd | 'more' |
|  |  | 'horse' |

Table 5: /r/ vocalization (Thiessen 2003).

### 4.1.2 Palatalization

Another very salient feature which distinguishes Plautdietsch from Standard German is related to palatalization. Palatalization refers to the process of sound change in which a non-palatal consonant, like /k/ changes to a palatal consonant such as /ç/ (Obrien, Fagan 2016). Palatalization in Plautdietsch is much more robust than in Standard German. Reasonably, Siemens argues that this was a result of the Mennonites' contact with Slavic languages to the east of Prussia (2012). This argument can be supported through the study of areal linguistics. Areal linguistics is the study of regional dialects or the differentiation of different linguistic patterns in each area (M.S. 2013), such as Thiessen has used for Prussia

[^1](2003). This influence can also be found in Eastern Yiddish, another West-Germanic language, spoken in the same area (Thiessen 2003).

Examples of palatalization in Plautdietsch would be the suffix -je for a diminutive, [1] or [i, i, $\mathrm{e}, \varepsilon$, ] $]$, following a [t] or [k]: Table 6 provided by te Velde (2018).

| Mädje | [mıtçə] | 'girl' | (SG: Mädchen) |
| :--- | :--- | :--- | :--- |
| ekj | [rtJ] or [Itç] | 'I' | (SG: ‘ich') |
| Kjint | [tçınt] | 'child' | (SG: ‘Kind') |
| tjlien | [tçli:n] | 'small | (SG: ‘klein') |
| tjrie(j)e | [tçi:ə | 'get' | (SG: ‘kriegen) |

Table 6: Palatalization (Dr. te Velde 2018)
Even though these examples were adapted from Thiessen's dictionary, it was very apparent from the participants' samples in Grant County, Oklahoma. The palatalization was not only preserved, but also often over-emphasized, which is addressed later in this thesis.

### 4.1.3 Vowel Differences

Some of the most noticeable differences between Plautdietsch and Standard German are their differing vowels. These vowel differences are listed below. Notably, there are far fewer front-rounded vowels, which are occasionally lowered in Plautdietsch compared to the High German vowels. This can only be assumed based on the data at hand. However, change can also be unpredictable from SG to PD.

The following examples on Tables 7-12 on vowel comparisons are from te Velde (2018), which have been taken from Jack Thiessen's Mennonite Low German Dictionary (2003) and from an excerpt of "Daut Bruttjleet" (Thiessen, Heidebrecht, 2011), i.e. "Das Brautkleid" or in English "The Wedding Dress".

| Vowels |  |  |  |
| :---: | :---: | :---: | :---: |
| Vowel | PD | SG | gloss |
| [e:] vs. [y:] | meed | müde | 'tired' |
|  |  | jreen | grün 'green' |
|  |  | äwa | über 'over' |
| Vowel <br> [e:] vs. [ø,œ] | PD | SG | English Gloss |
|  | needijch | nötig | 'necessary' |
|  |  | Meeble | Möbel 'furniture' |
|  |  | scheen | schön 'beautiful, pretty, nice |
| Here the equivalent unrounded vowels are also lower in Plautdietsch. |  |  |  |
| Vowel | PD | SG | gloss |
| [e:, $\varepsilon$ ] vs. [ $\mathrm{i}, \mathrm{}$, ] $]$ | dee | die | the (feminine) |
|  | enn | in | in |
|  | ess | ist | is |

Table 7: Vowel Lowering (te Velde 2018)
*Note: Lowering did not always occur. Here is an example of when the lowering did not occur on Table 8. This is because language change and sound change is not always constant, but rather sporadic.

| Vowel | PD | SG | English gloss |
| :--- | :--- | :--- | :--- |
| [i:] vs. [y:] | Jemiet | Gemüt | 'mood, spirit, temperament' |

Table 8: Vowel Lowering Did Not Occur (te Velde 2018)

| Diphthong vs. Monophthong |  |  |  |
| :---: | :---: | :---: | :---: |
| vowel [av] vs. [a] | PD <br> daut | $\begin{aligned} & \text { SG } \\ & \text { das(s) } \end{aligned}$ | English gloss 'that' |
|  | Kaun | Kanne | 'can' |
|  | plaut | platt | 'flat' |
| [0a] vs. [a, ${ }^{\text {] }}$ | moake | machen | 'make' |
|  | Goade | Garten | 'garden' |
|  | stoawe | sterben | 'to die' |
| [o:] vs. [a] | lote | lassen | 'let' |

Table 9: Diphthong vs. Monophthong (te Velde 2018)
Here is another example of change being unpredictable from SG to PD.

| Vowel <br> $[\mathrm{a}:]=[\mathrm{a}:]$ | PD <br> Dach | SG <br> Tag | English gloss <br> 'day' |
| :--- | :--- | :--- | :--- |

Table 10: Example of No Vowel Change (te Velde 2018)
Obviously, no change has happened in the example directly above.

| Monophthong vs. Diphthong |  |  |  |
| :---: | :---: | :---: | :---: |
| Vowel | PD | SG | English Gloss |
| [i:] vs. [r] | dietsch | deutsch | 'German' |
|  | Lied | Leute | 'people' |
| [i:] vs. [ar] | biete | beißen | 'to bite' |
|  | priess | Preis | 'price' |
| [e:/\&] vs. [ar] | heet(e) | heiß(en) | 'hot', 'to be named' |
|  | twee | zwei | 'two' |
|  | een | ein | 'a/one' |
| [u:] vs. [av] | Brut | Braut | 'bride' |
|  | uck | auch | 'also' |
|  | Hüs/Hus | Haus | 'house' |
|  | Krüt | Kraut | 'weeds' |
|  | süa | sauer | 'sour' |
| [o:] vs. [av] | loope | laufen | 'to walk, run, lope' |

Table 11: Monophthong vs. Diphthong (te Velde 2018)

| lower/laxer vs. higher/tenser |  |  |  |
| :---: | :---: | :---: | :---: |
| Vowel | PD |  | English gloss |
| [e:] vs. [i:] | leewe | lieben Fieber | to love <br> 'fever' |
|  | Jeete | gießen | 'to pour' |
| [ $\varepsilon$ :] vs. [e:i:] | bäde | beten | 'to pray' |
|  | jäwe | geben | 'to give' |
|  | läwe | leben | 'to live' |
|  | säwe | sieben | 'seven' |

Table 12: lower/laxer vs. higher/tenser (te Velde 2018)
Again, all the above examples pertaining to the differences between Plautdietsch vowels and Standard German's vowels come from a compilation and comparison of Standard German and of words from Thiessen's Mennonite Low German Dictionary based on his pronunciation claims in the introduction (2003). It was also cross-referenced from Plautdietsch words from the story "Das Brautkleid" (Thiessen, Heidebrecht 2011).

### 4.2 Thiessen's Dictionary

In this section of Chapter Four, I discuss the benefits of choosing an adequate dictionary for studying a dialect such as PD. Studying a lesser-known dialect of a language that has been so sporadically spread throughout the world can be quite problematic. It requires a comprehensive dictionary or grammar book for the researcher to adequately start an investigation. Moreover, linguistic research on Mennonite Plautdietsch is extensive, spanning eight decades. Several linguists, history professors, and members of the Mennonite-speaking communities themselves have attempted to create a standard written form of Plautdietsch. Jack Thiessen tried to establish a standard form of Plautdietsch in the 60s based on his Mennonite Plautdietsch-speaking community in

Canada which consists of descendants of both the Old and New Colonies (2003). In 1984, Herman Remple attempted to establish a consensus of the variations of pronunciations for the New Colony settlers (1995). Reuben Epp also tried in the 90s to provide an overview of how the dialects of the Old and New Colonies were from 1870-1920, before 1870, and how they appear now (1993). Also, Isaias J. McCaffery adapted his variation of Plautdietsch coming from Kansas in 2008 (2008). In 2012, Heinrich Siemens released an in-depth grammar and history book of the Mennonite Plautdietsch-speaking communities based on the Old Colony (Chortitza), the New Colony (Molotschna), and the variations emerging from Waldheim, Gnadenfeld, and Alexanderwohl all of which are still in Europe today (2012). All these attempts at standardization have failed, in the sense that these standardized varieties did not catch on and were not incorporated into today's use of Plautdietsch everywhere.

Notably, the problem with most of these books is that they are based on a Plautdietsch variety and do not focus on the regional varieties as a whole language. This is a problem caused by the many migrations of the Mennonite Plautdietsch-speaking communities. This has created a real problem when trying to compare one variety of Plautdietsch to another variety. For example, the participants here in Oklahoma who claim to be the descendants of the Kansas settlements and who are of the Molotschna and Volhynia Colonies (Penner 1976).

### 4.2.1 Justifications for Choosing Thiessen's Dictionary

This section details the many benefits of Thiessen's dictionary for my study. I chose Thiessen's dictionary as my main word list source because I believe this dictionary is the most accurate and robust version I have come across. This is because of four main reasons. First, Thiessen's thorough research on loan words from Polish, Russian, Ukrainian, Yiddish,

Old Prussian, Swedish, and most recently English into Plautdietsch, his study of the switch from Dutch to the Low German Plautdietsch variety, and his basis of the grammatical structures being based on of eastern Low Prussian and Low German dialects make it the most comprehensive dictionary (Thiessen 2003). Second, Thiessen is a native speaker of Plautdietsch in Canada (Thiessen 2003). Third, and possibly most importantly, Thiessen acknowledges the two main PD colonies in Canada, Old and New (Remple 1995, Thiessen2003), and attempts to account for their variations in speech. Fourth, I have not come across any sort of dictionary or word source for PD that accounts for all variations, as this would be almost impossible, and I have not come across any phonetic references for Volhynia PD. It is for these reasons that I chose Jack Thiessen's dictionary (2003) to be my main source for the word list. I have cross-referenced it with McCaffery's Plautdietsch language learning book (2008) and Remple's Plautdietsch dictionary (1995) as well.

### 4.2.2 What are the Limitations of Thiessen's Pronunciation Guidelines

Thiessen's dictionary is a good start for researching words and to get basic pronunciations, however it is limited by the fact that Thiessen has chosen to represent some of the phonemes with symbols outside of IPA and APA and does not explicitly say how and where the vowel is located inside the vocal tract, nor does he give many equivalents in other languages. The lack of standard IPA or APA symbols creates an extra burden for any researcher who might reference his dictionary; because more research is needed in order to be able to understand to what vowel sound Thiessen is alluding. Due to this fact, I supplemented Thiessen's dictionary with Remple's dictionary, as he goes into more detail of the pronunciation and gives a few more written examples and comparisons
of how the phonemes represented should sound (1995). However, Remple's dictionary was not near as extensive a work as Thiessen's dictionary.

### 4.2.3 Thiessen's PD Sound Inventory

The pronunciation guidelines set forth by Thiessen are important to this thesis because they provide essential information on what to expect when examining the Oklahoma Volhynia variety of PD. The following list is of the phonemic inventory of Plautdietsch according to Jack Thiessen (2003). It is important to note that Thiessen gave basic pronunciation guidelines as to whether a vowel is short or long, which appear to follow the German phonetic rules of vowels pronunciation (Thiessen 2003). Vowels that are followed by a double consonant or consonant cluster are short, except when this is due to morphological ending. This also applies to strong verbs in the case of analogy. Vowels are also short when in an unstressed syllable (Thiessen 2003). Vowels are long when followed by a single consonant, except when that consonant is /s/ (most of the time), and when a vowel is followed by an $/ \mathrm{h} /$, it is typically long (Thiessen 2003). Below is a detailed Phoneme-Letter Correspondences list on Table 13 of all the phonemes in Thiessen's Standard PD according to Thiessen (2003).

|  | Phoneme | Consonant | PD Examples | German; English Gloss |
| :---: | :--- | :--- | :--- | :--- |
| 1. | $/ \mathrm{p} /$ | p | punt | (pfund; pound) |
|  |  |  |  |  |
| 2. | $/ \mathrm{b} /$ | b | Boot | (boot; boat) |
| 3. | $\mathrm{t} /$ | t | Tün | (Zaun; fence) |
| 4. | $\mathrm{ld} /$ | d | Dach | (Tag; day) |
| 5. | $\mathrm{lk} /$ | ck | Socke | (Socken; socks) |
|  |  | k | kolt | (kalt; cold) |
|  |  | g | jung | (jung; young) |
| 6. | $/ \mathrm{g} /$ | g | Golt | (Gold; gold) |
| 7. | $\mathrm{lf} /$ | f | Fensta | (Fenster; Window) |
| 8. | $\mathrm{l} /$ | w | bliewe, wannea | (bleiben, wann; when) |


| 9. | /s/ | S | Kuss | (kuß, kiss) |
| :---: | :---: | :---: | :---: | :---: |
| 10. | /z/ | S | Sonn | (Sonne; sun) |
| 11. | /s/ | sch | Schalduak | (schürze; apron) |
| 12. | /z/ | zh | Farhz | (Verse; verses) |
| 13. | /ç/ | ch | maunche | (manche; some) |
|  |  | jch | sajcht | (sagt; said) |
| 14. | /x/ | ch | acht | (acht; eight) |
| 15 | /t'/ | tj | Tjoatj | (Kirche; church) |
| 16 | /d'/ | dj | Ridje | (Rücken; back) |
| 17 | /m/ | m | Maun | (Mann; man, one) |
| 18 | /n/ | n | Nacht | (Nacht; nicht) |
| 19 | /ñ/ | nj | klunje | (treten; to trample) |
| 20 | /h/ | ng | sunge | (sangen; sang) |
| 21 | /l/ | 1 | kullre | (kullern; to roll) |
| 22 | /l'/ | lj | Eelj, Ölj | (Öl; oil) |
| 23 | /r/ | r | Ruak | (Rauch; smoke) |
| 24 | /j/ | j | jreen | (Grün; green) |
| 25 | /h/ | h | haulf | (halb; half) |
| 26 | /i/ | ie | wiet | (weit; far) |
| 27 | /i/ | i | witt | (weiss; white) |
| 28 | /e/ | ä | säde | (sagten; said) |
|  |  | e | Esel | (Esel; donkey) |
| 29. | /å/ | e | emma | (immer; always) |
| 30. | /9/ | e | woare | (werden; will) |
| 31. | /e/ | a | Voda | (Vater; father) |
| 32. | /a/ | a | Sache | (sachen; things) |
| 33. | /o/ | o | Nobe | (Nachbar; neighbor) |
| 34. | /o/ | o | Kopp | (Kopf; head) |
| 35. | /ü/ | ü | Hüs | (Haus; house) |
| 36. | /u/ | u | huppse | (hoppsen; to jump) |
| 37. | /oa/ | oa | Koa | (Karre, Auto; car) |
| 38. | /ia/ | ia | Fia | (Feuer; fire) |
| 39. | /ea/ | ea | weare | (waren; were) |
| 40. | /ea/ | äa | jäajen | (gegen; against) |
| 41. | /ei/ | ei | Heimat | (Heimat; home) |
| 42. | /i/ | ee | deep | (Tief; deep) |
| 43. | /u/ | au | waut | (was what) |
| 44. | /u/ | oo | boot | (Boot; boat) |
| 45. | /ua/ | ua | fuats | (sofort; immediately) |

Table 13: Phoneme-Letter Correspondences (Thiessen 2003 p. VI-VII)

### 4.2.4 What are the Benefits of Thiessen's Extensive Dictionary

One major benefit is that his work is all-encompassing, meaning that Thiessen has considered all the loan words, language contact, English to PD, and PD to English in his dictionary. Most noteworthy is that Thiessen's dictionary is, at least to my knowledge, the most extensive PD dictionary in existence. Thiessen's dictionary consists of thousands of words and they span more than 400 pages.

### 4.2.5 Recognizing the Limitations of Comparing Spoken Volhynia PD in Oklahoma with Thiessen's Written Form of Plautdietsch

An obstacle faced in this thesis is comparing written Plautdietsch texts to spoken Plautdietsch. It is common knowledge that most people do not speak how they write. In other words, written forms do not reflect spoken language, let alone dialect, and PD has many dialects. This has created a problem for anyone attempting to create a standard for Plautdietsch and for myself when trying to compare these written "standards" with a spoken dialect here in Oklahoma.

### 4.3 Data Collection/impressionistic Data

In order to further study the Volhynia dialect spoken in Grant County, Oklahoma gathering information is essential to examine it. This next part of the thesis addresses background information on the participants, methodology, data elicited and includes a brief comparison of Thiessen's PD phonemes to those of the participants in Grant County, Oklahoma.

### 4.3.1 Participants

For this part of the study, all eight members of the Mennonite PD-speaking community in Grant County were able to participate. As previously mentioned, all the participants currently live in Oklahoma and are active members of the Mennonite Church.

All participants, four women and four men, are over the age of 60 . None of the participants actively speak PD in the home daily and stopped speaking PD from ages four to eight. Six of the eight speakers are native speakers of PD, the remaining two learned later in life. Again, all the speakers are related somehow. Examples of these familial relations are as follows: Woman 1 and Woman 2 are sisters who are married to Man 1 and Man 2. Woman 1 and Woman 2 have same first name. Furthermore, the first cousin to the sister, is married to the first cousin of the brothers. Close relations among participants are common because PDspeaking communities are often closed off to outsiders (Vix 2014).

### 4.3.1.1 Free Speech Methodology

Notably, none of the participants have been or will be paid. Instead, I will present my findings to them at their church and to their congregation of fellow Mennonites. Data collection for this part of the study began in Summer 2017 and concluded in Spring 2019.

To record as many robust responses and grammatical structures as possible, participants were asked to tell us stories of growing up speaking Plautdietsch, when they remembered stopping speaking, why they stopped the everyday use of Plautdietsch at home, what farm life was like, if they could remember any rhymes or nursery songs, and what some of their fondest memories were. This open-ended approached allowed the researcher to see how far back they could remember speaking Plautdietsch and allowed for robust responses with as many grammatical structures as possible. Since they were all farmers or had lived on a farm at one point or another in their lives, the researcher was able to compare their active vocabulary and pronunciations. However, one objective during this process was to avoid, as much as possible, influencing their speaking, grammar or vocabulary. Although, this cannot entirely be avoided, the researcher made the best
attempt to speak as little English and Standard German as possible during their storytelling and singing.

### 4.3.1.2 Volhynia PD Comparative Word List

The following is a comparative word list of PD words that I have compiled from Dr. John te Velde's interview with Plautdietsch speakers in August of 2017 in Grant County, Oklahoma, and which have been cross-checked with Dr. te Velde in accordance to the words' phonemic spellings and also with Jack Thiessen's Mennonite Low German Dictionary (2003). ${ }^{2}$ Because identifiable information was included during the interview process, the script is not included in the appendix.

## Comparative Word List

## Volhynia's PD

1. soll [zol]
2. Wo [wo:]
3. lernst [lernst]
4. do/du /ju /dut
[du/du/ju/dut]
5. dat [dæt]
6. Sin [zi:n]
7. Moader [mo:de]
8. seis [zaIs]
9. W(h)at /wat [wət]
10. Deutsch [doyt]]
11. Jua/ Ja [jъa, jə:]
12. ma [me]
13. leihe [las:ə]

## Thiessen's PD

selle, säle, sulle, jesullt
Wua
leahre [leverə]
dü
daut
sien
Mame/Mau/Mutta
saje, säd, jesajcht
waut
Dietsch
Jo,Joh
mie
leet 'sorry' be'düre

## gloss

'should'
'where'
'to learn'
'you'
'that'
'his' 'mother'
'to say'
'what, was, that which'
'German'
'yes'
'me'
'to feel sorry'
${ }^{2}$ An important note to consider when reviewing this word list is that there is often more than one variation of pronunciation for the Grant County, Oklahoma Volhynia Plautdietsch set, and all variations have been incorporated into the set below. An example of this would be \#4 and the four different variations of the pronunciation of the word 'you' or 'du' in Standard German.

| 14. mooake [mo:kə] | möake(n) | 'to make' |
| :---: | :---: | :---: |
| 15. beschtje [b\& ftj 'ə] | baste | 'best' |
| 16. Kücka [ku:kə] | Koake, koke, kohke | 'to cook' |
| 17. too [to] | SOO | 'so' |
| 18. Seit [zart] | setdäm, fonn, donn, aun | 'since' |
| 19. helf [helf] | halpe, holp, jeholpe | 'to help' |
| 20. Opwasche [o:pwafə] | Opp'wausche | 'to wash the dishes' |
| 21. Hand [hant] | haund, haunt | 'hand' |
| 22. es [es] | es | 'is' R |
| 23. ganz [gants] | goa | 'entirely' |
| 24. stief [ $\int$ ti:f] | stiew | 'stiff' |
| 25. woarde [vo:rdə] | je'woare | 'became' |
| 26. Ohja ohja [o: ja: o: ja:] | oh joh, oh joh! | 'oh yes oh yes' |
| 27. dea/dee [də/di:] | dee, deejanje | 'they' |
| 28. heb/hab /hadde/ <br> / habe /hedde | habe, haud, jehaud | 'have' |
| [heb/hab/ha:də/ ha:bə/he:də] |  |  |
| 29. hast [hast] | hast | 'have' |
| 30. Plackjes/Plackes | Plackes | 'stains' |
| 31. nor [nכr] | bloos, mau | 'only' |
| 32. boam [bom] | boom | 'tree' |
| 33. afschniede [æf(ni:də] | auf'schniede | 'cut off' |
| 34. ohne [o:nə] | ohne | 'without' |
| 35. Wofül [vo:fu:l | wua'romm | 'what for' |
| 36. weider [vaide] | wada | 'again, contrary' |
| 37. yester [jestər] | jistre | 'yesterday' |
| 38. doant [dכnt] | je'done, foadijch | 'done' |
| 39. sasstien [sa:stiə] | sasstien | 'sixteen' |
| 40. Englischlehra [ıngli ${ }^{\text {le:re] }}$ | enjlesch Leahra | 'English teacher' |
| 41. Bei [bar] | bi, bie | 'by, near, besides, with' |
| 42. letschta [lct $\int$ tə] | latsta, latste | 'last' |
| 43. stoon/stön [ $\int$ tu:n] | stund | 'hour' |
| 44. Kläptia [kla:ptiə] | 3 | '10:30' |
| 45. half elf [half $\varepsilon$ lf] | haulf alw | 'ten thirty' |
| 46. He [hi:] | hee | 'he' |
| 47. weh [ve:], wärst [ verst] |  |  |
| Wear/ war [ver/va:r] | wea, weare, je'wast | 'was' |
| 48. jeboren [jebo:rən] | je'buare | 'born' |
| 49. In [ən] | enn | 'in' |

[^2]| 50. Mien, min [mi:n] | mien | 'mine' |
| :---: | :---: | :---: |
| 51. Huus/Hüs! [hus] | hüs | 'house' |
| 52. Et /Ick/ Ets [et, Ikj', ets] | etj | 'I' |
| 53. miel [mi:l] | miel | 'mile' |
| 54. tom [tam] | fonn | 'from/of' |
| 55. norde [ O 人 d ə ] | nuade, nuad | 'north' |
| 56. näentia [nentiə] | näajentien | 'nineteen' |
| 57. achtadartsch [axtədartf] | tachentijch | 'eighty' |
| 58. naintijaachtadartsch [ne: | xtədart $\left.\int\right]$ | '1980' |
| 59. viel, väl [fi:l, fe:l] | väl | 'many' |
| 60. kjinja [kj'i:n ə/kj'i:nə] | tjinja | 'children' |
| 61. Mäattjes / Mäattje [mettj'əs/mettj'ə] | Mäatstje/ Mäatje | 'little girl, girl' |
| 62. junges/junger/ jungels [jvŋəs/ juŋe/ junəls] | jung/ junges (pl) | 'boy, boys' |
| 63. eene Een, enn (ein) [i:nə/i: n/en/] | eent | 'one' |
| 64. Schlang [[la y] | Schlang | 'Snake' |
| 65. twei [tvar] | twee | 'two' |
| 66. drei [draI] | dree | 'three' |
| 67. feier,/vea [fei:r/fea] | veea | 'four' |
| 68. fief, [fi:f] | fief | 'five |
| 69. saß, [sas] | sass | 'six' |
| 70. säbe, [z\&bə] | säwen | 'seven' |
| 71. acht, [axt] | acht | 'eight' |
| 72. nain, [nen] | näajen | 'nine' |
| 73. tien, / sehn [ti:n/se:n] | tien | 'ten' |
| 74. elf, [عlf] | alw | 'eleven' |
| 75. twelf, [twદlf] | twalw | 'twelve' |
| 76. thirtia (dreitia), | drettien | 'thirteen' |
| 77. viatia, [fiətiə] | veatien | 'fourteen' |
| 78. fuftia, [fuftiə] | feftien | 'fifteen' |
| 79. saßtia, [sa:stiə] | sasstien | 'sixteen' |
| 80. seebetia, [ze:bətiə] | säwentien | 'seventeen' |
| 81. achttia, [axttiə] | achttien | 'eighteen' |
| 82. twintitsch [tvi:nti:t]] | twintijch | 'twenty' |
| 83. Wie [vi:] | wie | 'we' |
| 84. Sohn [zo:n] | Sähn | 'son' |
| 85. un [ u n] | enn | 'and' |

86. Tiajoda ${ }^{4}$
87. ware [va:rə]
88. Broaders [bro:des]
89. sester/a [zeste/ə]
90. Als [als]
91. see/sey [zi:]
92. all / alle [a l /al ə]
93. stärft [] terft]
94. Seben de veäch
95. sin / sind [zi:n/zInt]
96. de/a [di:/da]
97. dieje[daijə]
98. Mein [main]
99. Moader [mo:de]
100. Voader [fo:de]
101. Mont/ Monat
102. Mi [mi:]
103. grautfoijder [gravtforde]
104. De achtdietsch [de axtdi:tf]
105. stärwe [Jta:rvə]
106. (mi) jork [jכrk]
107. De Giene [de gi:nə]
108. Gosshoppers [gכshכpes]
109. Familie [fami:ljə]
110. byegone/storbe/storf [baigən/ftorbə/ftorf]
111. grootchina [gru:tkj'i:nə]
112. Urgroot [u:rgru:t]
113. Urgrootkj'inja
114. Ouns/oud/ous [uns/ひd/us]
115. dochta [dokte]
116. sehn [se:n]
117. urgroot [u:rgru:t]
118. Verstoona [f£rftu:nə]
119. Versüppe [f£rzu:pə]
120. Janär, [ja:ner]
weare
brooda/breeda
sesta/sestra
wanneea, wann, auss
dee
aula, aules,aule
stoawe
säwendaveatijch
send
se
doot
mien
Mame/Mau/Mutta
Voda
Moonat
mi
Groot’Voda
tachentijch
stoawe
uck
Poa del 'heehna
Grauss'hoppa

Famielje
stoawe/storf/jestorwe

Groot'tjind/groot'tjinja
Groot
Groot'tjind/groot'tjinja
ons
dochta
tien
groot
Tale
ve'drinje/verdrunk/verdrunkes
Jaunwoah
'was, were' pl.
'brother/brothers'
'sister,sisters'
'when'
'they'
'all'
'die'
47
'you/they are'
'they'
'death, died'
'mine'
'mother'
'Father'
'Month'
'me, myself'
'grandfather'
'80'
'dying/ death'
'too, auch'
'guinea’
'grasshopper'
'family'
'died
'grandchild/ grandkids'
'great'
'grandchild/grandkids’
'us, ourselves, our'
'daughter'
'ten'
'great'
'count'
'to drown'
'January'

[^3]| 121. Febuär, [febuer] | Feeba'woa | 'February' |
| :---: | :---: | :---: |
| 122. März, [m \& rts] | Moats | 'March' |
| 123. April, [a: pril] | Aprel | 'April' |
| 124. Mai [m ar ] | Mei | 'May' |
| 125. Juna [ju:nə] | Juni | 'June' |
| 126. (Feurjeta) | Jüle, Jüli | 'July' |
| 127. August [avgust] | August | 'August' |
| 128. Septembre [s¢pt\&mbre] | Sep'tamba | 'September' |
| 129. December [dعtsəmbr] | Deezamba | 'December' |
| 130. spielen [[pi:lən] | späle | 'play' |
| 131. mit [mit] | met, mett | 'with |
| 132. mi [mi:] | mie | 'me' |
| 133. seije [zarjə] | saje, säd, jesajcht | 'to say' |
| 134. nah [na:] | no, noh | 'after, to' |
| 135. Kou [kav] | kooh | 'cow' |
| 136. Tjrose [tj' $~$ r o: z ə ] | tjäaj | 'cows' |
| 137. Schoel [ $\int \mathrm{o}$ :l] | school | 'school' |
| 138. anner [anne] | aundre/aundren | 'other/another' |
| 139. deede [de:də] | doone, doohne, deed, jedohne | 'to do' |
| 140. nit /ne [nIt, ni:] | nijcht | 'not' |
| 141. guot [g va: t] | bong | 'good/well' |
| 142. Sommer [zo:me] | Somma | 'Summer' |
| 143. Hai [har] | Hei | 'hay' |
| 144. Stall [ $\left.\int \mathrm{ta}: 1\right]$ | schetzel | 'stall or pen for animals' |

### 4.3.1.3 Volhynia PD in Oklahoma Phonemic Inventory

This list below is constructed based upon the above cognate set from the Volhynia PD interviews in Oklahoma. These constructions are of impressionistic value, meaning that I did not use any sort of software, such as Praat, to analyze each word. They were analyzed by ear. The reason for this is mainly due to time constraint of the study and the assumption that Thiessen would have also had to complete his research impressionistically by ear and through other dictionaries, as he does not directly state otherwise (Thiessen 2003). In other words, he has not listed a direct reference to his methodologies or elaborate on them. Additionally, Thiessen is a world-renowned lexicographer and not a phonetician or linguist
(Considine 2004) and software, such as Praat did not exist until 1991 (Boersma 2001, Boersma, Weenink 2019).

## Grant County, Oklahoma Volhynia PD Sound Inventory

|  | Phoneme | Letter | Cognate Set |
| :---: | :---: | :---: | :---: |
| 1. | /p/ | p | 20, 30, 44, 119, 123, 128 \& 130 |
| 2. | /b/ | b |  |
| 3. | /t/ | t, d | $\begin{aligned} & \text { 3-5, 9-10, 15, 17, 18, 20, 21, 24, 29, 37-39, 42-44, } \\ & 47,52,54,56-58,61,71,73,75-82,86,89,93,95,101, \\ & 103-105,110-113,115,117-118,128,131,140-141 \& \\ & 144 . \end{aligned}$ |
| 4. | /d/ | d | $4-5,7,10,25,27-28,33,36,38,55,57-58,66,70$, $76,80,86,88,96-97,99-100,103-104,107,114,115$, 129 \& 139. |
| 5. | /tij | tj | 15, 61, 111, 113 \& 136 |
| 6. | /kj | kj | 30, 52, 60, 111, \& 113. |
| 7. | /k/ | ck, k | 14, 16, 30, 44, 52, 106, 115, \& 135. |
| 8. | /g/ | g | 23, 103, 107-108, 110-113, 117, 127 \& 141. |
| 9. | /m/ | m | $\begin{aligned} & 7,12,32,50,53-54,61,98,101-102,109,122 \\ & 124,128-129,131-132 \& 142 . \end{aligned}$ |
| 10. | /n/ | n | $3,6,21,23,31,33-34,38,43,48-50,55-56,58,60$, 63, 72-73, 82, 84-85, 94-95, 98, 101, 107, 110-111, $113-114,116,118,120,125,130,134,138 \& 140$. |
| 11. | /n/ | ng | 40, 62, \& 64. |
| 12. | /r/ | r | $3,25,31,37,40,47-48,55,57-58,66-67,76,87-$ $88,93,103,105-106,110-113,117-123,126,128-129$ <br> 136 \& 138. |
| 13. | /f/ | f | $\begin{aligned} & \text { 19, } 24,33,45,59,67-68,74-75,77-78,100,103 \text {, } \\ & 110,118-119,121 \& 126 . \end{aligned}$ |
| 14. | /v/ | W | 25, 35-36, 47, 82-83, 87 \& 105. |
| 15. | /s/ | S | $\begin{aligned} & 3,8,15,29-30,37,39,42,47,51-52,62,69,73,79 \\ & 88-90,108,114,116,127 \& 128 . \end{aligned}$ |
| 16. | /z/ | S | 1, 6, 8, 18, 70, 84, 89, 91, 95, 119, 133, 136 \& 142. |
| 17. | / J/ | sch, s | $\begin{aligned} & 10,15,20,24,33,30,42-43,57-58,61,64,82,93 \\ & 104-105,110,118,130,137 \& 144 . \end{aligned}$ |
| 18. | /x/ | ch | $57-58,71,81$ \& 122. |
| 19. | /h/ | h | 19, 21, 28-29, 45-46, 51, 108 \& 143. |
| 20. | /j/ | j | 11, 37, 48, 62, 86, 97, 103, 106, 120, 125 \& 133. |
| 21. | /ts/ | z | 23 |
| 22. | /w/ | w | 2, 9 \& 20. |
| 23. | /l/ | 1 | $\begin{aligned} & 1,3,13,19,30,35,40,42,44-45,53,62,64,74- \\ & 75,90,92,109,123,130,137 \& 140 . \end{aligned}$ |


| 24. | /i:/ | ie, ee, i | $\begin{aligned} & 6,24,27,33,46,50,53,59,60,63,68,73,82- \\ & 83,91,95-96,102,107,109,111,113,130 \& 140 . \end{aligned}$ |
| :---: | :---: | :---: | :---: |
| 25. | /u:/ | u, ü, oo, ö | $4,16,35,43,51,78,111,112-113$ \& 117-119. |
| 26. | /I/ | e, i | 40, 52, 95, 123, 131 \& 140. |
| 27. | /v/ | u | 62, 85, 114, 127 \& 141. |
| 28. | /e:/ | ai, e, ee | $\begin{aligned} & 22,30,40,47-48,52,56,58,63,72-73,80,94 \\ & 104,107,116,121,128 \& 139 . \end{aligned}$ |
| 29. | /o:/ | oo, o, oa | $2,7,14,17,20,25-26,32,34-35,48,84,86,88$ $99,100-101,136-137 \& 142 .$ |
| 30. | / $\varepsilon, \varepsilon: /$ | ä, äa | $\begin{aligned} & 3,15,19,28,61,70,93,118-119,121,128-129 \& \\ & 136 . \end{aligned}$ |
| 31. | /2/ | e, a | ```11, 13-16, 20, 25, 27-28, 33-34, 39, 42, 44, 48-49, 55-58, 60-63, 70, 76-81, 86-87, 89, 92, 94, 97, 105, 107, 109-111, 113, 118-119, 125-126, 129,130, 133, 136 &  139.``` |
| 32. | /o/ | 0 | $1,31,38,55,106,108,110$ \& 115. |
| 33. | /e/ | a, er | $7,36,40,62,88-100,103,108,115,138$ \& 142. |
| 34. | /a: a/ | a | 20-21, 23, 26, 28-30, 39, 44-45, 47, 54, 57-58, 64, $69,71,79,81,87,90,92,96,104-105,109,120,123$, 134,138 \& 144. |
| 35. | /ai/ | ei, ie, ye | 8, 18, 36, 41, 65-67, 76, 97, 124, 133 \& 143. |
| 36. | /ОY/ОІ / | oi, eu, | 10 \& 103. |
| 37. | /avo/ | au, ou | 103, 127 \& 135. |
| 38. | /æ/ | a | 5 \& 33. |
| 39. | /ia/ | ia | 39, 44, 56, 76-81, 86. |

I would like to point out that it is obvious that the above list based on144 cognates from the Grant County interview is not nearly as complete as Thiessen's dictionary because Thiessen's dictionary is extremely thorough. However, based on the sheer numbers of phonemes alone, the Grant County sound inventory list consists of only 39 phonemes whereas the sound list of Thiessen's phoneme inventory of consists of 45 (2003). What the numbers alone suggest is that there is a reduction occurring in the Grant County sound inventory. Thiessen's consonants compared to the consonants of the PD speakers in Grant County, Oklahoma are further investigated in this part of the thesis. Vowel are investigated in Chapter Five of this thesis.

### 4.4 A Comparison of the Historical Plautdietsch According to Thiessen to the Volhynia Variety of Plautdietsch in Oklahoma today

Two charts have been constructed to compare Thiessen's PD consonants to those of the Volhynia variety of PD in Oklahoma.

### 4.4.1 Consonants

Table 14 below represents all the consonant sounds of Thiessen's Plautdietsch based on Thiessen's dictionary, beginning with the plosives and ending with the lateral approximants. The left-hand column lists all the types of consonants that are found in Thiessen's Plautdietsch, that is, all the manners of articulation that are relevant to the language. The row at the very top of the table lists all the relevant places of articulation. These are my best approximation based on his claims of pronunciation and his written form (Thiessen 2003). See the sound inventory list based on Thiessen's Plautdietsch dictionary for a cross-reference.


Table 14: Thiessen's PD Consonant Sound Inventory

Table 15 below represents all the consonant sounds of the Grant County, Oklahoma Volhynia Plautdietsch based on the above cognate sets and inventory list, beginning with the plosives and ending with the lateral approximants. The left-hand column lists all the types of consonants that are found in the Volhynia Plautdietsch, that is, all the manners of articulation that are relevant to the language. The row at the very top lists all the relevant places of articulation for the Volhynia Plautdietsch's consonants.


## Table 15: Grant County, Oklahoma Consonant Sound Inventory

### 4.5 Results of the Lexical Differences Between Historical PD and the Variety of Volhynia PD in Oklahoma

This section will discuss the results of the lexical differences between historical Plautdietsch and the variety of Volhynia Plautdietsch in Oklahoma.

### 4.5.1 Phonemic Reduction

The data suggests that there has been a reduction in consonants of the Grant County, Oklahoma Volhynia participants’ Plautdietsch sound system. The /ç/, /n/ and /3/ have been lost along with the palatalized variations of the $/ \mathrm{l}^{\mathrm{j}} /$ and $/ \mathrm{gj} /$. This could be a case of
depalatalization for these two phonemes. In addition, the participants in Oklahoma have adopted two new phonemes to their sound system: The Standard German affricate /ts/, and the English bilabial /w/. For /ts/, this is most likely due to their use of Standard German during church services as children. For /w/, this is most likely due to the influence of English their primary language today (Epp 1993, Penner 1976).

## Chapter Five

## Acoustic Descriptions of Mennonite PD Vowels

### 5.1 Overview

This part of the thesis is an in-depth analysis of a subset of vowels within the Grant County PD. This acoustic analysis examines the F1 and F2 vowel formants of each monophthong vowel. An in-depth analysis, with a system such as Praat, is needed for a proper look at the Volhynia variety of PD vowels as they are spoken in Grant County, Oklahoma. The work presented here can complement the acoustic work carried out by Rosalyn Burns on the Molotschna and Chortitza vowel systems (2016). Burns' research is a great starting point for any linguist wanting to gain a better understanding of the PD vowels, which is what this part of the thesis attempts to do.

Burns analyzes the linguistic variation in the pronunciation of PD across different Mennonite speech islands in North America. Due to the focus of this thesis, only the results from Burns' study that pertain to the participants in Kansas are investigated and compared here. Theoretically, her participants from Kansas would be of a similar, if not same, PDspeaking variety.

### 5.2 My Methodology

The aim for this part of my thesis is to gain a better understanding of the monophthong vowels within the Volhynia variety of PD spoken in Grant County, Oklahoma. To accomplish that, I carried out an acoustic analysis of the monophthongs using the Praat phonetics software package. After analyzing the data, I used Excel to make vowel plots and data tables for each individual speaker, and I examined variations that arose from speaker to speaker. Examples of this would be variations of $/ \mathrm{I}, \varepsilon, \mathrm{Y} /$. During this process, I kept
everyone's data separated and compared data speaker-to-speaker and vowel-to-vowel. The main reason for not pooling any of my data is because it is not clear whether pooled data represents any particular speech group or whether it represents an artifact of pooling the data. Instead, I chose to look at individual results by themselves.

### 5.2.1 Speakers/Participants

I discuss the qualifications and recruiting methods for this part of my study. For my acoustic study, four of the eight members of the Mennonite PD community located in Grant County were able to participate: two women and two men. As previously mentioned, all the speakers currently live in Oklahoma and are active member of the Mennonite Church. Additionally, all speakers are over the age of 60 . None of the speakers actively speak PD in the home daily and stopped speaking PD around ages four through eight. Though they do have occasions to speak it today, these occasions are not frequent.

All four participants are native speakers of PD , and all the speakers are related in one way or another. ${ }^{5}$ None of the aforementioned speakers have been or will be paid. Instead, I will present my findings to them at their church and to their congregation of fellow Mennonites. Data collection for this part of the study was carried out in summer 2019.

### 5.2.2 Elicitation Task

This section details the elicitation task used in order to make the recordings I analyzed in Praat. I decided to make a word list for my participants to utter so as to compare monophthong vowels from speaker to speaker. This was done after choosing to

[^4]work with Thiessen's dictionary because of the reasons listed in Chapter Four. I then pulled out as many of what I believed to be minimal pairs from the list as possible. The words that I chose were intended to relate to the participants in a meaningful way. That is, I tried to choose words that they would be able to recall based on previous conversations I had had with them and from their personal life experiences. These words pertained to general everyday life, barn life, or Christianity. This was also done to produce strong minimal pairs containing vowels in single syllable, closed-coda, stressed environments. I did this to avoid any words that may be impossible for the speakers to remember due to the fact that they have not spoken PD on a daily basis in quite some time and also to keep their confidence and spirits up.

Once the words were chosen, I then translated them into English since PD is only spoken and not written and had the participants read each word in English and provide the PD equivalent a minimum of five times in a row, in the order shown below. The words below are shown set up into three different columns for clarity for me, the vowel in question and for the reader of this thesis.

To avoid the written form influencing their production of the word and/or vowel in question, none of the speakers were shown any words written in Thiessen's standard PD or Standard German, as shown below. Additionally, all four of the speakers were in the same room at the same time while paring off together as husband and wife to complete the elicitation task. Thus, they were able to help each other if they did not instantly know a word or were unsure of the tense of the verb. This was to avoid contamination by me or my research partner prompting them during the elicitation task or unintentionally misleading the participants. Ladefoged claims that, "groups of ordinary speakers are needed to reflect
the true phonetic characteristics of the language" (2011 p.15). Thus, this setting also gave them a chance to discuss their understanding of PD , the word in question, and the proper pronunciation. I found that even when they disagreed on the pronunciation of a word such as, /bynə / vs /benə/, for the word 'ceiling', they went with what they believed to be correct as an individual. If they had no idea and did not agree with the consensus of the group on a word, they simply abstained from saying the word all together.

### 5.2.3 Word List

As stated above, only the English translation was shown to avoid any influence from my research partner, Standard German, or myself. The speakers were shown only the English words in the order shown below. The word list below, Table 16: Word List 1, is not what was shown to the participants. See Appendix A for the word list shown to the participants. Any of the words that one or more person was unsure of was not uttered as a group and is indicated below in the word list by the phrase "(not said)" following the word. Interestingly, words in the list below that were substituted by the participants were not found in Thiessen's dictionary. These words are indicated by a back slash following "(not said)" and then the word is given. Another interesting discovery is that the participants had a different vowel for the word "ceiling". Two of the participants agreed on the vowel in question, while one was not in agreement and the other refused to say the word, as she was not sure that it was correct. Furthermore, all tokens taken from this elicitation task are listed in Appendix B.

|  | PD | SG | English |
| :--- | :--- | :--- | :--- |
| $\Lambda$ | du best | du bist | you are |
| $æ$ | fuat (not said)/ <br> awä | weg | away |


| I | Wudd/will | Will | will |
| :---: | :---: | :---: | :---: |
| $\varepsilon$ : | Pead | Pferd | horse |
| ou | buak | buch | book |
| ou | Duak | schal | scarf |
| $\varepsilon / \mathrm{Y}$ | Bähne (women)/Bühne (men)/ (dach) | Decke | ceiling |
| u: | Buck /Moog (not said) | Bauch | belly |
| ): | Baul | der Ball | Ball |
| i: | daut Beest/Tier (both not said) | das Tier | the animal |
| e:/כ | seet (not said)/ <br> suet | süß | sweet |
| $\varepsilon$ : | Bäde | beten | pray |
| a: | hab | haben | have |
| a | Back | die Bäcke | cheek |
| y : | Hüt (not said) | Haut | skin |
| כ: | Kaut | Katze | tomcat |
| o: | toop | zusammen | together |
| o: | bloos | nur | only |
| o: | doot | tot | dead |
| 0: | de Pogg/Trj'ood (both not said) | der Frosh | the Frog |
| I | daut Bod | das Bad | the bath |
| I | Billijch | billig | cheap |
| I | Bitt | biss | bite |
| I | Witt | Weiß | white |
| I | Yiff | gib | give |
| $\varepsilon$ | Hett | hitze | heat |
| 0 | de Blott | der Schlamm | the mud |
| J | ekj mott | ich muss | I must |


| $J$ | de Brost <br> (not said) | die Brust | the chest |
| :--- | :--- | :--- | :--- |
| $U / \mathrm{I}$ | huppshe (not said) <br> /springe | springen | spring/jump |
| $U$ | Buddel | Flasche | bottle |

Table 16: Word List 1 Vowel Elicitation Task

### 5.2.4 Recording Environment

This section discusses both the advantages and disadvantages of the location of the recordings. It is important to note that all the recordings were taken in one of the couple's dining rooms of their home in Grant County, Oklahoma. Several reasons affected this decision. The first reason is anxiety. The anxiety of a new and unfamiliar place was lessened for the participants by using a location that was comfortable and of the participants' choosing. The second factor was consistency. The conditions were nearly identical for each recording session. Regrettably, there was some small background noise due to papers shuffling around, which resulted in some of the words not being analyzed. Unfortunately, this made it difficult to get consistent or accurate measurements from the recording.

### 5.2.5 Equipment

This section describes the equipment used for the acoustic analysis. All the recordings were made with a Zoom H2n Handy Recorder using a WAV file format with a sampling rate of 44.1 kHz . The files were transferred to a laptop and analyzed with Praat.

### 5.2.6 Data Analysis

This section details exactly how the data analysis took place within Praat (Boersma 2001, Boersma, Weenink 2019). All the phonetic analysis took place within Praat using the standard Praat settings since they appeared to work quite well for both men and women. I
did experiment with other settings in Praat. However, changing the formant settings for the women who had intermittent creaky voice seemed only to make the formants become sporadic or phantom formants would appear. After some experimentation I found that the most stable setting was the standard setting for men as well. I then edited the recordings to separate the men's productions from those of the women. Each speaker's recording was then an individual recording. I then listened to the recordings and edited out loud noises and pauses in the recordings.

Thereafter, I used Praat to create a text grid for each individual recording. By creating a text grid, I was able to mark boundaries for each word and for the vowels within the word boundaries as well.

First, I went through and marked all the boundaries for each word, and then labeled the word in PD and in English. After that, I marked the boundaries for each stressed vowel in every word (shown in Praat Text Grid Figures 1-3 below). Subsequently, I marked the durations for each vowel based on the intensities shown in spectrographs and wave form, accounting for the consonants before and after the vowel and aspiration (as shown in Praat Text Grid Figures 1-3 below). If there were any errors, it would be based on cutting the vowel off too short. I erred on the side of caution, cutting the vowels off too short rather than too long to minimize co-articulatory effects from the consonants on the vowels. Additionally, this was with the goal of trying to not include any of the CV transitions or aspirations of the consonants; this is also shown in Praat Text Grid Figures 1-3 below.


Figure 1: Praat Text Grid


Figure 2: Praat Text Grid


Figure 3: Praat Text Grid

After my text grid was complete with each tier and every boundary marked, I ran a script (provided by Dylan Herrick in LING 3133 Spring 2019) to measure the duration and F0-F3 values in order to attain a precise measurement of the middle of every vowel and to maintain consistency throughout the entire process. The script measured each vowel's duration as marked in the Text Grid and measured the vowel at five equally spaced points within the duration of the vowel. Only the middle, or third, measurement was taken from each vowel measured and then the F0-F3 values for all tokens of a given vowel phoneme were averaged together. The Praat script that I ran is listed in Appendix C.

### 5.3 My Results/Data

Section 5.3 of this thesis discusses the results and data I attained from my acoustic analysis of the monophthongs of the Volhynia PD speakers in Praat. First, I show and discuss the averages of each individual speaker. Next, I compare variations, differences and extreme similarities of certain phonemes from speaker to speaker.

I transferred data from the Praat script into an Excel spreadsheet. I then made averaged vowel formant tables for each individual speaker's monophthongs and F1 and F2 formants. From there, I was able to make an averaged vowel plot for each individual speaker as well.

### 5.3.1 Speaker-by-Speaker Averaged Vowel Formant Charts and Vowel Plots

This section details each averaged vowel plot for each individual speaker, one by one. For each speaker, I plotted the average value for each vowel sound into an F1 x F2 vowel plot. I also provide a table of the F1 and F2 averaged values for each individual speaker.

### 5.3.1.1 Woman 1 Averages

This section shows the averages for both the F1 and F2 of each monophthong in a vowel formant chart. It also shows these averages plotted on a traditional vowel plot. Both charts and plots are only for Woman 1.

|  | $\Lambda$ | æ | I | ع: | $\varepsilon$ | u: | ग: | 3 | a: | a | 0: | U |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| F1 | 588 | 744 | 463 | 493 | 530 | 406 | 516 | 637 | 720 | 669 | 528 | 600 |
| F2 | 1170 | 1879 | 1899 | 1833 | 1885 | 962 | 984 |  | 1723 | 992 | 1062 | 959 |

## Table 17: Woman 1 Averaged Vowel Formants

Table 17 only lists the F1 and F2 value of each averaged vowel for Woman 1. Vowels that were not uttered are not listed. These are the values that I used in order to plot F1 and F2 in the following vowel plot for Woman 1. The vowels are listed in the order in which I worked on them. It is important to note that for every speaker's vowel plots and formant tables, the /i/ vowel is missing. This is due to the participants omitting the word(s) containing the /i/ vowel in question.

Interpretation of the vowel plots can be somewhat tricky. I marked each phoneme's placement with a special shape, and I placed the corresponding phoneme of that shape to the right of it. I have done this for two reasons: first, I prefer to see exactly where the plotted point is, and second, I do not like having to look back and forth from the point plotted and then the key on the side of the chart to figure out what I am looking at. This is my own personal preference, but I have done this with the aim of making my vowel plots more user friendly.


Figure 4: Woman 1 Averaged Vowel Plot
Figure 4 shows that/ə:/ and /o:/ are nearly right on top of each other, while the/ァ/ is much lower than its long counterpart. Also, worth pointing out is that / $\mathrm{I} /$ is much higher than its traditionally laxer position as one might expect when comparing to Standard German. The /a:/ is also lower and more fronted than its shorter counterpart /a/ while also nearing the region of $/ æ /$. I suspect that the /a/'s encroachment on the/æ/ position represents /a/ shifting to /æ/. /u/ appears as a high back vowel, similar to what one would expect for Standard German. Notably, none of the vowels seem to have taken a central position. In other words, all the vowels are either being fronted or backed by this speaker.

This is interesting to me because none of the other speakers in this community have a low/front vowel and Man 1 lacks a high/back vowel, while the rest of the speakers also contain a high/back vowel.

### 5.3.1.2 Woman 2 Averages

This section shows the averages for both the F1 and F2 of each monophthong in a vowel formant chart. It also shows these averages plotted on a traditional vowel plot. Both charts and plots are only for Woman 2.

Regarding the vowel plot, I have marked each phoneme's placement with a special shape, and I have placed the corresponding phoneme of that shape to the right of it.

F2 114919282119230320851259918963203711611060984

## Table 18: Woman 2 Averaged Vowel Formants

Table 18 only lists the F1 and F2 value of each averaged vowel for Woman 2. Vowels that were not uttered were not listed. These are the values that I used in order to plot F1 x F2 in the following vowel plot for Woman 2. The vowels are listed in the order in which I worked on them. It is important to note that in everyone has vowel plots and averaged vowel formant tables the /i/ vowel was not plotted or F1 and F2 values recorded. This is due to the participants omitting the word(s) containing the /i/ vowel in question.


Figure 5: Woman 2 Averaged Vowel Plots
What can be observed in Figure 5 is that/כ:/ and /o:/ are encroaching on each other, while the/o/ is much lower than its long counterpart. It appears as though /o:/ and /o:/ are merging into a single vowel. Also, /I/ is much higher than its traditionally laxer position in comparison with Standard German. $/ \varepsilon /$ and $/ \varepsilon: /$ are taking on higher positions than $/ \mathrm{I} /$. The /a:/ is also much higher and more fronted than its shorter counterpart /a/ while also nearing the region of /æ/. I suspect that the /a:/ by this speaker is shifting to an /æ/vowel as well. /u/ appears in the space as a high/back vowel but is being slightly more fronted
than one might expect. It is also worth noting that /æ/ is the closest vowel to a middle vowel for this speaker.

### 5.3.1.3 Man 1 Averages

This section shows the averages for both the F1 and F2 of each monophthong in a vowel formant chart. It also shows these averages plotted on a traditional vowel plot. Both charts and plots are only for Man 1.

In the vowel plot below, I have marked each phoneme's placement with a special shape, and I have placed the corresponding phoneme of that shape to the right of it.

|  | $\Lambda$ | æ | I | $\varepsilon$ : | $\varepsilon$ | u: | a: | a | ग: | , | 0: |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| F1 | 463 | 529 | 436 | 448 | 420 | 411 | 524 | 634 | 504 | 595 | 496 |
| F2 | 1135 | 1547 | 1874 | 1774 | 1846 | 1809 | 1598 | 925 | 997 | 1204 | 976 |

Table 19: Man 1 Averaged Vowel Formants

Table 19 lists only the F1 and F2 value of each averaged vowel for Man 1.
Vowels that are not spoken were not listed. These are the values that I used in order to plot F1 x F2 in the following vowel plot for Man 1. The vowels are listed in the order in which I worked on them. It is important to note that none of the participants had any other tokens for /i/ due to them omitting word(s) containing this vowel. So /i/ has not been plotted for any of the speakers. This is due to the participants omitting the word(s) containing the /i/ vowel in question.


Figure 6: Man 1 Averaged Vowel Plot
What can be observed in Figure 6 is that/כ:/ and /o:/ are right on top of each other, while the/J/ is much lower than its long counterpart. Also, /I/ is much higher than I expect t , with $/ \varepsilon /$ taking on an even higher position than $/ \mathrm{I} /$, though $/ \varepsilon: /$ remains lower than $/ \mathrm{I} /$, making a sort of vowel sandwich on the chart. The /a:/ is also much higher and more fronted than its shorter counterpart /a/ and is practically on top of /æ/. Both /a/ and /æ/ are in middle vowel positions and may be merging into a single vowel, $/ \mathrm{a} / \rightarrow / æ / . / \mathrm{u} /$ is in a very surprising front/high position, much different than what one who studies Standard German would expect. It is likely that /u/ is being realized as $/ \mathrm{y}: /$ in comparison to the other speakers in this Oklahoma community. Unfortunately, I was only able to attain five tokens for /u/ from this speaker; more data is needed to investigate this. It is also worth
noting that none of the vowels are in expected high/back vowel positions or in low/front vowel positions. I find this interesting as the other speakers from this community do have a high back vowel and none of the speakers except Woman 1 have low/front vowels either.

### 5.3.1.4 Man 2 Averages

This section shows the averages for both the F1 and F2 of each monophthong in a vowel formant chart. It also shows these averages plotted on a traditional vowel plot. Both charts and plots are only for Man 2.

Once more, I have marked each phoneme's placement with a special shape, and I have placed the corresponding phoneme of that shape to the right of it.


Table 20: Man 2 Averaged Vowel Formants
Table 20 only lists the F1 and F2 value of each averaged vowel for Man 2. Vowels that were not spoken were not listed. These are the values that I used in order to plot F1 x F2 in the following vowel plot for Man 2. The vowels are listed in the order in which I worked on them. It is important to note that none of the participants had any tokens for /i/ due to them omitting word(s) containing the vowel in question. So /i/ has not been plotted for any of the speakers.


Figure 7: Man 2 Averaged Vowel Plot
What can be observed in Figure 7 is that/כ:/ has taken on a high back vowel position while the/s/ is much lower than its long counterpart and is encroaching on a middle vowel position. The /I/ is much higher than I expect, with / $\varepsilon$ :/ right next to it. / $\varepsilon$ / is a low/mid vowel and is much lower than its long counterpart and is encroaching on the /a/ and /æ/ vowels. The /a:/ is much higher and more fronted than its shorter counterpart/a/ and is practically on top of /æ/. I suspect that the /æ, a, $\varepsilon /$ vowels may be merging into one sound for this speaker in Grant County. /u/ is shockingly low and in a central vowel position. It is likely that the /u/ is being realized as a/y:/ vowel. More data is needed to be able to conclude this claim, as I was only able to attain five tokens for the /u/vowel in question. It
is also worth noting that the vowels on this plot have a heavier clustering of middle vowels than any of the other vowel plots by the speakers in Grant County.

### 5.3.2 Variation of /I/

Because /I/ is much higher than I expected, I would like to take a more in-depth look at the variation of / $\mathrm{I} /$. Below are four tables that list the average of each occurrence of /I/ in a word that was spoken five times each. If the word was not said, the F1 and F2 are not listed and the word has been crossed through with a line. See Table 22. These are the values that I used in order to plot F1 x F2 in the following vowel plots for /I/ in all four participants.

| Vowel | $\mathbf{I}$ | $\mathbf{I}$ | $\mathbf{I}$ | $\mathbf{I}$ | $\mathbf{I}$ | $\mathbf{I}$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| F1 | 437 | 395 | 434 | 476 | 402 | 469 |
| F2 | 1974 | 2002 | 1740 | 1876 | 1645 | 2009 |
| Word | Will | Billijch | Bitt/bitte | Witt | yiff/yiv | springe |

Table 21: Man 1

|  | $\mathbf{I}$ | $\mathbf{I}$ | $\mathbf{I}$ | $\mathbf{I}$ | $\mathbf{I}$ | $\mathbf{I}$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| F1 | 455 | 377 | 416 | 404 | 351 |  |
| F2 | 1570 | 1793 | 1811 | 1820 | 1856 |  |
| Word | Will | Billijch | Bitt/bitte | Witt | yiff/yiv | springe |

Table 22: Man 2

| Vowel | $\mathbf{I}$ | $\mathbf{I}$ | $\mathbf{I}$ | $\mathbf{I}$ | $\mathbf{I}$ | $\mathbf{I}$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| F1 | 484 | 422 | 457 | 569 | 425 | 421 |
| F2 | 1917 | 1937 | 1937 | 1886 | 1975 | 1740 |
| Word | Will | Billijch | Bitt/bitte | Witt | yiff/yiv | springe |

Table 23: Woman 1

| Vowel | $\mathbf{I}$ | $\mathbf{I}$ | $\mathbf{I}$ | $\mathbf{I}$ | $\mathbf{I}$ | $\mathbf{I}$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| F1 | 494 | 422 | 515 | 492 | 437 | 509 |
| F2 | 2060 | 2248 | 2056 | 2111 | 2226 | 2013 |
| Word | Will | Billijch | Bitt/bitte | Witt | yiff/yiv | springe |

## Table 24: Woman 2

Figure 8: Man 1 /I/ Vowel Plot


Figure 9: Man 2 /I/ Vowel Plot ${ }^{6}$



Figure 11: Woman 2 /i/ Vowel Plot
W2: /I/ Vowel Plot


Figure 10: Woman 1/I/ Vowel Plot

[^5]What can be observed in the four vowel plots above is that the men have higher clusterings of /i/vowels than the women. The men's F1 values never go above 476, let alone 500. /I/ vowels that do go above 500 are only observed in the women's vowel plots. This is not surprising as there are well known differences between male and female vocal tracts (Disner 1980, Sjerps, et la 2019, Hillebrand, et al 1995, Ladefoged 2011). Each individual seems to have at least one if not two outliers of / $/$ / in their vowel plots, meaning one of the /I/ vowels is further out on its own and not as close to the clustering going on in the plot. See Woman 1, Woman 2 or Man 2 for examples of this. Man 1, however, does not have this exception going on. His /I/vowels seem to be well spaced with no outstanding outliers.

### 5.3.3 Variation of $/ \varepsilon /$

Because $/ \varepsilon /$ and $/ \varepsilon$ :/ had quite a variation from one another and from speaker to speaker, I would like to take a more in-depth look at their variations. Below are four tables that list the average of each occurrence of $/ \varepsilon /$ and $/ \varepsilon: /$ in a word that was spoken five times each. If the word was not said or if a different vowel was used, the F1 and F2 are not listed and the word has been crossed through with a line. For more information about vowels that were substituted for $/ \varepsilon /$, see Tables 10 and 11 in section 5.3.4. These are the averaged values that I used in order to plot F1 x F2 in the following vowel plots for $/ \varepsilon /$ and $/ \varepsilon$ :/ in all four participants. It is also important to note that in Table $27 / \varepsilon: /$ is clearly marked in red because it is a suspected diphthong, possibly triphthong that are discussed later. I would also like to note the this particular / $\varepsilon$ :/ was not averaged into the initial overall vowel plots for Woman 1 in section 5.3.1.1 due to it not being a monophthong.

Table 25: Man 1

| Vowel | $\boldsymbol{\varepsilon}:$ | $\boldsymbol{\varepsilon}$ | $\boldsymbol{\varepsilon}$ | $\boldsymbol{\varepsilon}$ |
| :--- | :--- | :--- | :--- | :--- |
| F1 | 394 | 501 | 424 | 416 |
| F2 | 1791 | 1756 | 1794 | 1897 |
| Word | Pead | Bäde | Hett | Bähnne/bühnne |

Table 26: Man 2

| Vowel | $\varepsilon:$ | $\varepsilon:$ | $\varepsilon$ | $\boldsymbol{\varepsilon}$ |
| :--- | :--- | :--- | :--- | :--- |
| F1 | $\mathbf{4 4 2}$ | $\mathbf{3 6 2}$ | 532 |  |
| F2 | $\mathbf{1 7 9 8}$ | $\mathbf{1 8 9 2}$ | 1519 |  |
| Word | Pead | Bäde | Hett | Bähnne/bühnne |

Table 27: Woman 1

| Vowel | $\varepsilon:$ | $\varepsilon:$ | $\varepsilon$ | $\varepsilon$ |
| :--- | :--- | :--- | :--- | :--- |
| F1 | 522 | 493 | 530 |  |
| F2 | 2074 | 1833 | 1885 |  |
| Word | Pead | Bäde | Hett | Bähnne/bühnne |

Table 28: Woman 2

| Vowel | $\varepsilon:$ | $\varepsilon:$ | $\varepsilon$ | $\varepsilon$ |
| :--- | :--- | :--- | :--- | :--- |
| F1 | 470 | 416 | 483 | 457 |
| F2 | 1949 | 2220 | 2286 | 2319 |
| Word | Pead | Bäde | Hett | Bähnne/bühnne |



Figure 12: Man $1 / \varepsilon / \& / \varepsilon: /$


## W1 / $\varepsilon /$ \&/ع:/ Vowel Plots

F2
240022002000180016001400


Figure 14: Woman $1 / \varepsilon / \& / \varepsilon: /$

## W2 / $\varepsilon / \& / \varepsilon: /$ Vowel Plots

F2
240022002000180016001400


Figure 15: Woman $2 / \varepsilon / \& / \varepsilon$ :

Figure 13: Man $2 / \varepsilon / \& / \varepsilon: /$

It appears that $/ \varepsilon /$ and $/ \varepsilon: /$ vary from speaker to speaker. For Man 2 , Woman 2 and Woman 2 on Figures 13, 14 and 15, the $/ \varepsilon /$ vowels appear to be lower than their longer
counterpart, / $\varepsilon: /$, but in Woman 2's vowel plot, Plot 12, there is a / $\varepsilon: /$ vowel that is lower than another $/ \varepsilon /$. However, on Man 1's vowel plot, Plot 9 , the $/ \varepsilon: /$ is both higher and lower than $/ \varepsilon /$. Again, $/ \varepsilon /$ and $/ \varepsilon: /$ appear to vary in each chart. The only thing that appears to be consistent is that it is inconsistent.

Therefore, I would like to take a closer look at the $/ \varepsilon: /$ in Plot 11 for Woman 1. I suspect that the reason for the great variations of $/ \varepsilon /$ and $/ \varepsilon: /$ from speaker to speaker is due to what I found with Woman 1's / $\varepsilon$ :/ when she said the word Pead, meaning horse. It appears this vowel maybe morphing into a diphthong and possibly a triphthong. This is not surprising, as the dark schwa that follows the precedent vowel would create the ideal environment for a diphthong or it could be a case of consonantal co-articulation. Although, she is the only speaker for which there is clear evidence of this happening, her pronunciation could be a clue for what is happening with $/ \varepsilon /$ and $/ \varepsilon: /$ with the Grant County speakers. In Figures 16 and 17 one can clearly see that the wave fluctuates three times. The formants even drop in the middle as if a partial closure is happening but never closes and opens again. This could be that phantom formants are affecting the data as well. Comparing Woman 1 to Man 1, the differences are quite extreme. Although there is a small spike in the formants in Figure 18, it is not definite enough to conclude it is a diphthong let alone triphthong. Figure 18 clearly shows a monophthong, however, its length and intensity in the bottom formant line (F1) and spectrograph resemble the same pattern in Figures 16 and 17. What is really interesting is that the actual waveform has this spot in the middle where it appears to be slightly fluctuating but not enough to affect the vowel in question. It could be on the verge of changing and having more diphthong-like qualities, but it has not yet become a diphthong. This is mere speculation and a more thorough
investigation would have to take place. However, for Woman 1 it is a definite diphthong, if not a triphthong.


Figure 16: Woman 1 saying Pead


Figure 17: Woman 1 saying Pead again


Figure 18: Man 1 saying Pead

### 5.3.4 Behnne vs Bühnne or / $\varepsilon / v s$. /y/

Because $/ \varepsilon /$ seems to have more complexities than what appears at first glance. I would like to look at the variations of the PD word for ceiling, Behnne and Bühnne. Please note that in section 4.3.3, some of the speakers did not have the $/ \varepsilon /$ when saying the word ceiling or else they just skipped the word altogether. Below, Table 29, lists the average of each occurrence of either $/ \varepsilon /$ or $/ \mathrm{y} /$ in the word ceiling. If the word was not said, the F1 and F2 are not listed and the word has been stricken out with a line. These are the values that I used in order to plot F1 x F2 in the following vowel plots for $/ \varepsilon /$ and $/ \mathrm{Y} /$ in all the participants.

| Speaker | M1 | M2 | W1 | W2 |
| :--- | :--- | :--- | :--- | :--- |
| Vowel | $\varepsilon$ | Y |  | $\varepsilon$ |
| F1 | 416 | 465 |  | 457 |
| F2 | 1897 | 1742 |  | 2319 |
| Word | Bähnne | Bühnne | Bähnne/bühnne | Bähnne |

Table 29: / $\varepsilon /$ vs. /y/


Figure 19: /ع /vs. /v/
It is important to note that this vowel plot does not have the same range as the individual vowel plots above, which range from 350-650 for the F1 and 675-2075 for the F2. The reason it is important to note this change is that / $\mathrm{Y} /$ appears as a low back vowel and that is not the case. The purpose of this vowel plot is to only compare the differences between $/ \mathrm{y} /$ and $/ \varepsilon /$ vowels only. The ranges for the other vowels were not included on this plot. What is noticeable in this vowel plot is that Man 1 has the highest $/ \varepsilon /$ and that Woman 2 has a much lower and forward $/ \varepsilon /$. Man 2's vowel, $/ \mathrm{y} /$, is lower and further back than either of the $/ \varepsilon /$ vowels. However, what cannot be seen in this vowel plot is the conversation about this word. Each participant seemed to conflict on whether the vowel
sound was a $/ \varepsilon /$ or a $/ \mathrm{y} /$, which lead to some not wanting to say the word for one reason or another, while others were very insistent on their vowel production and some also did not hear the difference between the two vowels but insisted everyone was saying them the same way.

### 5.3.5 Dispersion of /u:/

This next section discusses and shows the dispersion of / u :/ among all four participants. /u:/ only occurred in one word, Buck, meaning belly and none of the participants skipped this word. These are the values that I used in order to plot F1 x F2 in Vowel Plot 14 for the vowel/u:/. Additionally, I marked each plotted point with a unique shape and corresponding participant instead of the vowel right next to it. This was done with the aim of making the vowel plot more user-friendly.

| Speaker | M1 | M2 | W1 | W2 |
| :--- | :--- | :--- | :--- | :--- |
| Vowel | u: | u: | u: | u: |
| F1 | 411 | 520 | 406 | 416 |
| F2 | 1809 | 1547 | 962 | 1259 |
| Word | Buck | Buck | Buck | Buck |

Table 30: Dispersion of /u/


Figure 20: Dispersion of /u/
What is immediately noticeable in Figure 20 is that both women participants seem to have in a more traditional high back vowel position. Woman 1's /u:/ is right where one who studies Standard German would expect it to be. Woman 2's /u:/ is nearby Woman 1 and is fairly close to being where one might expect to find a /u:/. What is interesting is that Man 1's /u:/ is much farther front, but it is still high. Man 2's /u:/ is also being fronted but is in a much lower/mid vowel position. This dispersion of / $u$ :/ is quite unique and needs closer investigation than is appropriate for the scope of this thesis.

### 5.3.6 Similarities of /o:/ and /0:/

This next section discusses the similarities and differences of the vowels /o:/ and /כ:/. The table below shows the averaged values that I used to plot F1 x F2 in everyone's vowel plots—that is, in plots 15-18 below—for both vowels/o:/ and /o:/. Each vowel has been plotted with a unique shape and marked with corresponding vowel-that is, either /o:/ or /כ:/—right next to it. This was done to make the vowel plots easy to read.

| Speaker | W1 | W1 | W2 | W2 | M1 | M1 | M2 | M2 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Vowel | $\mathbf{0}:$ | Ј: | $\mathbf{0}:$ | フ: | $\mathbf{0}:$ | Ј: | $\mathbf{0}:$ | フ: |
| F1 | 528 | 516 | 533 | 523 | 496 | 504 | 491 | 380 |
| F2 | 1026 | 984 | 1060 | 918 | 976 | 997 | 859 | 712 |

Table 31: Similarities of /o:/ and / $\mathbf{~ : / /}$


Figure 21: Man 1 /o:/ \& / $\mathbf{~ : ~}$


Figure 22: Man 2 /o:/ \& / $: /$


Figure 23: Woman 1 /o:/ \& /o:/


Figure 24: Woman 2 /o:/ \& /כ:/

What is immediately noticeable in Figures 21 and 23 is that/o:/ and / $\mathrm{o}: /$ are nearly on top of one another. This shows that in the case of these two speakers, Man 1 and Woman 1, the vowels are clearly encroaching on one another and could possibly merge. In Figures 22 and 34 , the /o:/ and / $\mathrm{o}: /$ are still well within range of one another but are not nearly as close to each other as the other two vowel plots. Figure 21 is the only vowel plot in which /o:/ is higher and further back than /כ:/. In all three of the other plots, Figures 22-24, /כ:/ is the vowel that is higher and more backed. These four plots are the most uniform and
consistent of the individual findings that I have come across yet. At this point in time, it is mere speculation, but it could be that / $\mathrm{o}: /$ and / $\mathrm{o}: /$ are on the verge of merging and becoming the same sound, though much more information would be needed and a much closer investigation than the scope of this thesis allows for.

### 5.4 Conclusion: What do my Results/Data Say

First, I reiterate a few of the salient points that have already been discussed in the sections above. Woman 1 and 2 both have a high back vowel, specifically /u:/, while Man 2 has a high back / $\mathrm{o}: /$. Only Man 1 is missing a high back vowel, and he is missing a low front vowel as well. It appears that all my speakers have vowels, such as / $\mathrm{J}: /$ and /o:/, merging or at least encroaching in on one another. The similarities between the two vowels are suggested from the data recorded above. One of my speakers' monophthongs may be being realized as a diphthong. This applies to Woman 1 only and the vowel $/ \varepsilon: /$ within the word Pead, meaning horse. This was only true for this word however, as $/ \varepsilon: /$ was only realized as a diphthong, and possibly a triphthong in this word alone and not in the others she stated. This is most likely due to the dark schwa. The vowel /u:/ seems to have a varied dispersion and $/ \mathrm{I} / \mathrm{is}$ not where most would assume it would be. However, this is hard to claim with the lack of the /i/ vowel which was not measured due to none of the speakers saying the word with the /i/ vowel in question. Rather, it is much higher than where I expected it to be. The vowels $/ \varepsilon: /$ and $/ \varepsilon /$ seem to vary from speaker to speaker as well.

In order to attain a better understanding of my personal findings, I need to address Burns' research in further detail in section 5.5. Once this is done, I then attempt to compare my individual speaker findings against hers. This allows me to determine if there are any similarities or differences among our speakers. This comparison is done in section 5.6.

### 5.5 The Importance of Burns Research

Burns analyzes the linguistic variation in the pronunciation of PD across different Mennonite speech islands in North America in order to define three aspects of its linguistic development: "1. The nature of phonetic variation in PD speaking communities. 2. The role of distance in the diffusion of innovations th(r)ough the long-distance speech community. 3. The factors that mediate the development of linguistic innovation in the long-distance speech community (p1. Burns 2016)." Due to the nature of this thesis, only the results and aspects that pertain to the participants in Kansas used in Burns' study are examined here.

### 5.5.1 A Quick Critique of the Methodology

Due to the nature and length of Burns' research and my own, I provide only a brief synopsis of her methodology. Like myself, Burns also used word lists for her elicitation task, but unlike me, she also used a visual aid, identified as a slide show, as well. She claims that her two-word lists were given to different participants in different areas. Burns also states that words were written in Plautdietsch, in languages other than English, as well as in English to elicit a response of the target words in question.

Below is a summary of the three different chapters from Burns' dissertation summarizing the background information on the participants, the elicitation tasks used, the equipment used to analyze the vowels and the location and settings of the recordings.

### 5.5.1.1 Burns' Speakers

This next section details the background information of the participants from Kansas in Burns' study. Burns' Kansas participants are from the region around Wichita, Kansas and she states that the Russian Mennonites from the Molotschna region settled this area in 1874 (Epp 1993, Penner 1976). Burns identifies Kansas as the home of the oldest

Molotschna settlement in the U.S. (Burns 2016), and she states that this area in Kansas was settled by the Krimmer Mennonite Brethern, the Alexanderwohl (Penner 1976), and Vohlinya (Volhynia) Mennonites, and others as well. Additionally, she states, that the Russian Mennonites who immigrated in the 1870s are associated with the Mennonite settlements in Henderson, Nebraska, Korn, Oklahoma, Montlake Minnesota, and Fresno, California (Burns 2016).

Burns identifies all the participants as native speakers of Plautdietsch who were willing to participate. Out of the 50 participants listed in Burns' study, thirteen of the participants were from Kansas, and of the thirteen participants, five were of true Kansas origins. The other participants that were listed as being from Kansas were not born and raised in the Kansas settlements. Additionally, all five of the participants who were from Kansas were all women and were all identified as belonging to the Molotschna variety of PD speakers. Notably all the speakers identified as from Kansas but who were not of Kansas origins were listed as speakers of the Chortitza variety (Burns 2016).

Burns combines data for multiple speakers, and this is problematic for two reasons. First, combining data for male and female speakers is controversial since there are well known differences between male and female vocal tracts (Disner 1980, Sjerps, et la 2019, Hillebrand, et al 1995, Ladefoged 2011). Second, the Kansas group combines data for people who currently live in Kansas even though some were raised as Chortitza speakers.

### 5.5.1.2 Burns' Elicitation Tasks

Burns' data elicitation in Kansas took place in the summer of 2014, and she notes that two different versions of a word list were used. Each participant was presented with a list of words to translate from a source language of their choosing into Plautdietsch.

Monolingual participants and those who preferred not to translate were presented with a slide show of images related to the concept of the target word (no example was given) ${ }^{7}$.

Burns made three attempts at most to elicit a given target word. It appears as though she was being careful not to lead on the speakers by uttering the words she was trying to elicit. Burns notes that participants were free to skip words that they could not recall at any time during the session (Burns 2016).

### 5.5.1.3 Burns' Equipment

During the acoustic elicitation, participants wore a Nady Hm-20U unidirectional headset microphone and were recorded on a Zoom HN4 digital recorder. Recordings were made at a $44.1 \mathrm{kHz} /$ second sampling rate, annotated in a Text Grid, and analyzed with Praat. This resulted in F0-F4 measurements for each vowel. The third phase of Burns' research has to do with social status. The scope of this present study is narrower than this; so, I do not cover Burns' third phase in any more detail.

### 5.5.1.4 Burns' Recording Environment

Based on the descriptions, I assume that Burns worked one-on-one with her participants. Since no mention was made of an exact location or of background noises, pauses or nearby distractions I assume that these were not problematic factors for Burns' recordings/elicitations.

### 5.5.1.5 Burns' Kansas Results

This next section details the results from Burns' Kansas PD speakers. Burns provides vowel plots, but the measurements that Burns lists represent a pooled average of

[^6]male and female speakers. Burns does not separate men from women even though pooling male and female data is typically viewed as problematic (Disner 1980, Ladefoged 2011). Burns does provide an appendix for the individual measurements for each token and or speaker.

Additionally, all figures in this section represent the normalized formant values for each of the three Plautdietsch vowel systems: stressed long vowels stressed short vowels, and opening diphthongs (which are not being compared) (Burns 2016). See Table 32 below for the categorization of Burns' vowels.

As mentioned before, only five of the speakers are listed as of true Kansas origins. Furthermore, KS01, KS03 are identified as males from Nebraska living in Kansas. KS12 male and KS11 female are identified as from Northern Mexico. KS10 is a female from Bolivia, KS09 is a female identified as being from Northern Mexico, Texas and Southwest Kansas. KS08 is a female identified as from Canada, and KS07 is a male identified as from Minnesota. Again, I only examine speakers who are originally from Kansas.

KS02 is a female from central Kansas and has only diphthong realizations in the EI and TAUSS classes.

KS04, also a female from central Kansas, uses monophthongs in the EI and TAUSS classes. Burns states that the nucleus of the TAUSS class is considerably lower than the nucleus of the EI class and at times overlaps with the HAB class. Additionally, Burns claims that KS04 does not have a high back vowel. The nuclei HOS and HOOT classes have roughly the same range for F1 and differ primarily in terms of F2. The HÜT class is a high central vowel. The ÄKJ and BIET classes remain separate. The HUTT class is centralized in some words but is mostly a back vowel. Burns claims that, the RIGJ and BITT classes have not
split. The EA and IA classes have merged.

| Vowel | PD Word | English Word |
| :---: | :---: | :---: |
| [i.] | BIET | 'bite' |
| [e:] | ÄT | 'eat' |
| [ee :] | ÄKJ | 'oak' |
| [әг] | HEET | hot' |
| [a:] | HAB | 'have' |
| [y:] | HÜT | 'skin' |
| [o:] | HOS | 'hare' |
| [әЈ] | H00T | 'hat' |
| [วv] | TAUSS | 'cup' |
| [ $\varepsilon$ I] | EI | 'egg' |
| [I] | BITT | 'bit' |
| [Ie ] | RIGJ | 'back' |
| [ $\varepsilon$ | HETT | 'heat' |
| [ $]$ | OSS | 'ox' |
| [ u ] | HUTT | 'protection' |

Table 32: Monophthongs of Burns 2016 Study
KS05, also a female from central Kansas, has predominantly diphthong realizations of the TAUSS class and only diphthong realizations of the EI class.

KS06, who is also a female from central Kansas, has only diphthong realizations of the EI and TAUSS classes. The nucleus of the TAUSS class is sometimes close to the HAB class. Burns claims that the nucleus of the EI class has a similar F1 to the HEET class, but
the HEET class tends to have a lower F2, although the exact measurements are not listed but it can be observed on the vowel plot. The ÄKJ class comes close to the space of the BIET class. The HÜT class is a central vowel. The HOOT class has a central nucleus, which is slightly lower than the HOS class. The HOS class has a higher F1 than the other high vowel classes. The short vowels all form distinct categories except for the RIGJ and BITT classes, which have not split (P. 148 Burns 2016).

KS13 is also a female from central Kanas. She has exclusively diphthong realizations of the EI and TAUSS classes. The ÄKJ class remains far apart from the BIET class. The HÜT class is a high central vowel. Once again, Burns claims that KS13 lacks a high back vowel.

### 5.5.1.6 Burns' Conclusion

Because the data are combined, it is impossible to provide speaker-to-speaker comparison of Burns' acoustic data with that of my study. However, Burns provides the only acoustic data set for PD that I am aware of, and it is possible to point out some general observations of similarities and differences.

In summary, Burns states that three of the five speakers that are listed as being from true Kansas's origins do not have a high back vowel. Additionally, in some cases where the vowel has split in one speaker, it does not split in the others. Also, some of the monophthongs are being realized as diphthongs by one speaker but not by another.

### 5.6 Comparisons of Conclusions

Section 5.6 attempts to provide some comparisons from Burns research to my own. Since Burns has not used a traditional vowel plot and does not chart the F1 and F2 of what was plotted for each individual participant, it is nearly impossible for me to compare individual findings against individual findings. Additionally, Burns also pools her data from
men and women together, meaning that all the data for the men and women were combined into a single representation. She does this despite pooled data typically being viewed as problematic among other researchers (Disner 1980, Ladefoged 2011). Comparisons of my findings against Burns are a comparison of apples and oranges. So rather than comparing, I am adding to the field of PD acoustic analysis, furthering the field in which she has made a sizeable contribution.

To reiterate, Burns states that three of the five female speakers that are identified as having true Kansas origins do not have a high back vowel. Additionally, in some cases where the vowel has split for one speaker, it does not split in the others. Also, some of the monophthongs are being realized as diphthongs by one speaker but not by another.

What is interesting is that parts of Burns' results match mine, but most do not. I do not find this surprising as we have two completely different methodologies. Burns states that her participants with Kansas's origins do not have a high back vowel at all. Regarding my research, this is not true for the majority. Women 1 and 2 both have a high back vowel, specifically /u:/, while Man 2 has a high back /כ:/. Only Man 1 is missing a high/back vowel like Burns stated, but he is also missing a low/front vowel. Rather than having vowels split for speakers as Burns does, my participants appear to be merging their vowels, or they are at least encroaching in on one another at a rapid rate, such as / $\mathrm{o}: /$ and / $\mathrm{o}: /$. The similarities between the two vowels are undeniable in my work. Burns claims that some of her speakers' vowel monophthongs are being realized as diphthongs, and I found this also to be the case with Woman 1 and the vowel / $\varepsilon$ :/ in a specific word, Pead, meaning horse. This was true only for this word however, as $/ \varepsilon$ :/ was only realized as a diphthong, possibly a triphthong in this word alone.

What I find comforting in all of this is that our research is both unique and different and our results match these differences. We both seem to have many speakers who vary from one another individually. We also seem to have similar phenomena with different vowels, such as monophthongs being realized as triphthongs. Again, the purpose of my research is to add to the field of PD vowel acoustic analysis to which Burns has made a large contribution. If the data from Burns' Kansas speakers who are truly from Kansas is correct, then it could prove that my speakers are of a different dialect than hers and do not hail from the same original colony because of all the differences found in our data. Again this cannot be proven definitively, as Burns has pooled all her data both men and women together and I have not. She has also pooled data from speakers who were not of actual Kansas origins but came from somewhere else. Again, this is not to say I am right, and she is wrong, or vice a versa, but to merely speculate on the differences between our data. In order to figure out if our speakers indeed do speak different dialects, I would have to recreate her methodology exactly with my participants, or she would have to do the same in return with hers, and then I could confidently claim this.

## Chapter 6 Final Conclusions

The purpose of this thesis was to investigate the historical background of the Mennonite PD speakers in Grant County, Oklahoma in order to clarify their migration history, to provide a lexical inventory of the consonants of those speakers and to analyze acoustic data of their vowel systems.

Mennonite Plautdietsch is classified as a Low German dialect of the West Germanic branch of the Germanic language family and is a subgroup of Eastern Low Prussian (Niederpreußisch) (Ziesemer 1924, Mitzka 1930, Thiessen 2003). The language is often associated with the Mennonites due to their many persecutions and migrations and it being their primary language for generations. Due to these migrations and the spreading of Mennonite PD speakers across the globe there are many variations of PD today.

The first part of this thesis discussed the route taken by the Grant County Mennonites' ancestors into Oklahoma. According to Penner, Mennonites in Oklahoma migrated from the Kansas colonies and those colonies were made up of Molotschna speakers, with Molotschna referring to their origins in Ukraine. After extensively reviewing the participants' own research and comparing that with Penner's research, I conclude that the participants in Oklahoma are of the Volhynia variety of Mennonites. This conclusion is based on the detailed historical information provided by the speakers I worked with in Grant County.

As previously pointed out, in the second mass migration of the Mennonites, the participants' ancestors never made the stopover in Dubrowna, nor did they make it another 500 miles into Ukraine, to be considered part of either two main colonies, Molotschna and Chortitza. They instead settled the area of Volhynia and did not leave until 95
the third mass migration. During the third major mass migration, their ancestors not only left at different times of the year, they sailed to America on different ships, landed in different locations, and settled Kansas at different times and in different locations in comparison to that of Penner's research.

This could only mean that they are, in fact, Volhynia Mennonites and that their dialect would, in fact, have be different than that of the Molotschna Mennonites, as Penner claims. This is due to the fact that they never settled that area in Ukraine. Therefore, this thesis examined the dialect relating to the Volhynia Mennonites in Grant County, Oklahoma.

The second part of this thesis provided a lexical inventory of the Volhynia PD speakers in Oklahoma and compares their consonants to those of Thiessen's. Based on 144 cognates from the Grant County interview, their sound inventory list consists of only 39 phonemes compared to the sound list of Thiessen's phoneme inventory of 45 (2003). Numbers alone suggest that there is a reduction occurring in the Grant County sound inventory.

The data provided in Chapter Four showed that there has been a reduction in consonants of the Volhynia PD-speaking participants' sound system. The /ç/, /n/ and /3/ have disappeared or merged with other sounds along with the palatalized variations of the $/ \mathrm{l}^{\mathrm{j}} /$ and $/ \mathrm{gj} /$. In addition, the participants in Oklahoma have added two new phonemes to their sound system, the Standard German affricate /ts/ and the English bilabial /w/. This is most likely due to their former use of Standard German during church services as children and to their constant use of English as their primary language today (Epp 1993, Penner 1976).

The third part of this thesis provided an acoustic analysis of the participants' dialect of Volhynia PD and to compare it to that of Burns' 2016 study of PD speakers from Kansas. The purpose of this comparison was to see if there were similarities to the Kansas speakers to that of the Oklahoma speakers, since Penner claimed they would be of the same variety and Burns listed them as Molotschna speakers. This comparison was difficult for several reasons. One being that she pooled her data, another that she added participants from Kansas into this pooled data that were not of true Kansas origins and also that our methodologies were completely different. Despite all this, one similarity was found. We both had participants realizing monophthongs as diphthongs. While I cannot conclude beyond a reasonable doubt that our speakers are indeed from different origin colonies, the differences in our data could be viewed as supporting that conclusion.

In terms of observations about my data, Woman 1 and 2 both have a high back vowel, specifically /u:/, while Man 2 has a high back /כ:/ vowel. Only Man 1 is missing a high back vowel and missing a low front vowel as well. It appears that all my speakers have vowels, such as /כ:/ and /o:/, merging or at least encroaching in on one another, at a rapid rate. The similarities between the two vowels are undeniable from the data recorded above. One of my speaker's monophthongs is being realized as a diphthong. This applies to Woman 1 only and only the vowel / $\varepsilon$ :/ within the word, Pead, meaning horse. This was thus true only for this word, however, as / $\varepsilon$ :/ was only realized as a diphthong, possibly a triphthong in this word alone and not in the others she said. The vowel /u:/ seems to have a varied dispersion and $/ \mathrm{I} /$ is not where most would assume it would be. Rather, it is much higher than Standard German's equivalent vowel. The vowels $/ \varepsilon: /$ and $/ \varepsilon$ / seem to vary from speaker to speaker as well.

What all three of these aspects tell us regarding the Volhynia PD speakers in Grant County, Oklahoma is that PD is unique. It has a robust history and not all speakers can be coined as either Molotschna or Chortitza. Furthermore, just because most of a colony hailed from a certain place in Kansas and then migrated to Oklahoma during the Land Run years does not mean that all Mennonites in Oklahoma or Kansas are of Molotschna origins or speak that dialect. I believe based on the research I have conducted that the speakers in Grant County, Oklahoma are of Volhynia descent and speak the Volhynia variety of PD. I do, however, believe that their PD does vary from the variety of Thiessen's standard PD based on the lexical differences and word substitutions from my speakers. I also claim that Burns' speakers in Kansas who self-identify as Molotschna speakers are also of a different variety of PD than that of my Volhynia PD participants in Oklahoma, though, without doing primary research with the Kansas speakers, this remains a tentative conclusion.

My research has barely scratched the surface of the Volhynia dialect of PD in Oklahoma. What this research suggests is that more acoustic analysis is needed in order to further the field of Mennonite PD research, because not all speakers can be divided into two groups of either Molotschna or Chortitza PD speakers.

## Bibliography

Atkins, P. (2012, November 11). Mosaic Community Church. Retrieved May 12, 2018, from http://www.glasgowmosaic.com/blog/mennonites-quakers-and-radical-peacetraditions/.

Burns, R. C. (2016). New World Mennonite Low German: an investigating of changes in progress (dissertation).

Boersma, P. (2001). Praat, a system for doing phonetics by computer. Glot International 5:9/10, 341-345.

Boersma, P. \& Weenink, D. (2019). Praat: doing phonetics by computer [Computer program]. Version 6.1.07, retrieved 26 November 2019 from http://www.praat.org/.

Campbell, L. (2013) Historical Linguistics: An Introduction. Edimburgh University Press.
Cox, C., Driedger, J.M. \& Tucker, B.V (2013). "Mennonite Plautdietsch (Canadian Old Colony)." Journal of the International Phonetic Association 43, (2): 221-29. doi:10.1017/s0025100313000121.

Cosidine, J. (2004). Mennonite Low German Dictionary: A Review Article. Journal of Mennonite Studies, 22, 247-258. Retrieved from http://jms.uwinnipeg.ca/index.php/jms/article/view/1008.

Disner, S.F. (1980). Evaluation of vowel normalization procedures. The Journal of the Acoustical Society of America, 67(1), 253-261. doi: 10.1121/1.383734.

Epp, R. (1993) The Story of Low German \& Plautdietsch: Tracing a Language across the Globe. Hillsboro, KS: Readers Press.

Hiebert, P.G., Clarence Hiebert. (1989). Church of God in Christ, Mennonite (CGC). Global Anabaptist Mennonite Encyclopedia Online. Retrieved 4 April 2020, from https://gameo.org/index.php?title=Church_of_God_in_Christ,_Mennonite_(CGC)\&old id=167118.

Hillebrand, et al. (1995). Acoustic characteristics of American English vowels. The Journal of the Acoustical Society of America, 97(5), 3099-3111. doi: 10.1121/1.411872.

Iivonen, A., Harnud, H. (2005). Acoustical comparison of the monophthong systems in Finnish, Mongolian and Udmurt. Journal of the International Phonetic Association, 35(1), 59-71. doi: 10.1017/s002510030500191x.

Kawahara, S. (2014, May). Praat Scripting for dummies - Keio University. Retrieved from http://user.keio.ac.jp/~kawahara/pdf/PraatScriptingDummies.pdf.

Kroeker, M. E. (2000). The Encyclopedia of Oklahoma History and Culture. Retrieved from http://www.okhistory.org/publications/enc/entry.php?entry=ME012.

Ladefoged, P. (2011). Phonetic data analysis: an introduction to fieldwork and instrumental techniques. Malden, MA: Blackwell Pub.
M.S., P. (2013, April 7). What is AREAL LINGUISTICS? definition of AREAL LINGUISTICS (Psychology Dictionary). Retrieved from https://psychologydictionary.org/areallinguistics/.

McCaffery, I. J. (2008). Wi Leahre Plautdietsch: a beginner's guide to Mennonite Low German. Goessel, Kan.: Mennonite Heritage Museum.

OBrien, M. G., \& Fagan, S. M. B. (2016). German phonetics and phonology: theory and practice. New Haven: Yale University Press.

Participants. (2019, February 8). Personal Narratives \& Background Information. Personal Interview with J. te Velde.

Participants. (2017, August 18). Open Ended Story Telling. Interview with J. te Velde.
Participants. (2019, June 6). Reading Word Lists. Personal Interview with J. te Velde.
Penner, L. C. (1976). The Mennonites on the Washita River: the culmination of four centuries of migrations (dissertation).

Pullum, Geoffrey K., and William A. Ladusaw. Phonetic Symbol Guide. 2nd ed., University of Chicago Press, 2014.

Rempel, H. (1995). Kjenn Jie Noch Plautdietsch? A Mennonite Low German Dictionary. Rosenort, Man.: Prairieview Press.

Robinson, O. W. (2003). Old English and Its Closest Relatives: A Survey of the Earliest Germanic Languages. Stanford, CA: Stanford Univ. Pr.

Ryan, K., et al. (2009, August). Praat Script Resources. Retrieved from http://phonetics.linguistics.ucla.edu/facilities/acoustic/praat.html.

Salmons, J. C. (2012). A History of German. What the past reveals about today's language. Oxford: Oxford Univ Pr.

Sarmah, P., et al. (2015). "An Acoustic Study of Bodo Vowels." Himalayan Linguistics, vol. 14(1). doi:10.5070/h914125288.

Schrag, M. H. (1959). Volhynia (ukraine). Global Anabaptist Mennonite Encyclopedia Online. Retrieved 12 March 2020, from https://gameo.org/index.php?title=Volhynia_(ukraine)\&oldid=163540.

Schroeder, W., \& Huebert, H. T. (1996). Mennonite Historical Atlas: Second Edition Revised and Expanded. Winnipeg, Canada: Springfield Publishers.

Schweinberger, M. (2016, June 28). Creating a Personalized Vowel Chart with PRAAT and R. Retrieved from http://www.martinschweinberger.de/blog/persvowelchart/.

Siemens, H. (2012). Plautdietsch: Grammatik, Geschichte, Perspektiven. Bonn: Tweeback.
Sjerps, M.J., et al. (2019). Speaker-normalized sound representations in the human auditory cortex. Nature Communications, 10(1). doi: 10.1038/s41467-019-10365-z.

Stewart, J. (2015, August 24). Production and perception of stop consonants in Spanish, Quichua, and Media Lengua. Retrieved from http://www.academia.edu/15209048/Production_and_perception_of_stop_consona nts_in_Spanish_Quichua_and_Media_Lengua.

Stewart, J. (2017, February). Praat Scripting. Retrieved from http://www.jessestewart.net/downloads.html

Stewart, J., et al. (2018). The Development of Phonological Stratification: Evidence from Stop Voicing Perception in Gurindji Kriol and Roper Kriol. Journal of Language Contact, 11(1), 71-112. doi: 10.1163/19552629-01101003.
te Velde, J. (2018). Plautdietsch. Background, linguistic features and some current speech samples. Presentation for the Friends of Oklahoma Linguistic Sciences, April 26, 2018, Oklahoma State University, Stillwater.

Thiessen, J. (2003). Mennonite Low German dictionary. Madison (Wis.): Max Kade Institute for German-American studies, University of Wisconsin-Madison.

Thiessen, J., \& Heidebrecht, H. (2011). Dittsied plautdietsche Jeschichte. Bonn: Tweeback.
Vix, K. (2014). Verticalization, Wartime Americanization Efforts, and the German-to-English Shift among the Mennonite Brethren of Hillsboro, Kansas. (Master Thesis). ProQuest Dissertations \& Theses Global.

Appendix A
Word List 1 Given to Participants

| you are |
| :--- |
| away |
| will |
| horse |
| book |
| scarf |
| ceiling |
| belly |
| ball |
| the animal |
| sweet |
| pray |
| have |
| cheek |
| skin |
| tomcat |
| together |
| only |
| dead |
| the frog |
| the bath |
| cheap |
| bite |
| white |
| give |
| heat |
| the mud |
| I must |
| the chest |
| spring/jump |
| bottle |

Appendix B
Tokens Taken from Word List 1: Vowel Elicitation Task

| Vowel | PD | SG | English | Man 1 tokens | Man 2 <br> Tokens | Woman 1 <br> Tokens | Woma <br> n 2 <br> Token <br> s |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\Lambda$ | du best | du bist | you are | 5 | 5 | 5 | 5 |
| æ | fuat (not <br> said)/ awä | weg | away | 5 | 5 | 5 | 5 |
| $\varepsilon:$ | Pead | Pferd | horse | 5 | 5 | 5 | 5 |
| I | Wudd/will | Will | will | 5 | 5 | 5 | 5 |
| ou | buak | buch | book | 5 | 5 | 5 | 5 |
| OU | Duak | schal | scarf | 5 | 5 | 5 | 5 |
| $\varepsilon / \mathrm{Y}$ | Bähne /Bühne / (dach) | Decke | ceiling | 5 | 5 | 0 | 5 |
| u: | Buck /Moog (not said) | Bauch | belly | 5 | 5 | 5 | 5 |
| ว: | Baul | der Ball | Ball | 5 | 0 | 5 | 5 |
| i: | daut Beest/Tier (both not said) | das Tier | the animal | 0 | 0 | 0 | 0 |
| e:/כ | seet (not <br> said)/ suet | süß | sweet | 5 | 5 | 5 | 5 |
| $\varepsilon$ : | Bäde | beten | pray | 5 | 5 | 5 | 5 |
| a: | hab | haben | have | 5 | 5 | 5 | 5 |
| a | Back | die Bäcke | cheek | 5 | 5 | 5 | 5 |
| y : | Hüt (not said) | Haut | skin | 0 | 0 | 0 | 0 |
| כ: | Kaut | Katze | tomcat | 5 | 5 | 5 | 5 |
| 0: | toop | zusammen | together | 5 | 5 | 5 | 5 |
| 0: | bloos | nur | only | 5 | 5 | 5 | 5 |
| 0: | doot | tot | dead | 5 | 5 | 5 | 5 |


| o: | de <br> Pogg/Trj'ood (both not said) | der Frosh | the Frog | 0 | 0 | 0 | 0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| o: | daut Bod | das Bad | the bath | 5 | 5 | 5 | 5 |
| I | Billijch | billig | cheap | 5 | 5 | 5 | 5 |
| I | Bitt | biss | bite | 5 | 5 | 5 | 5 |
| I | Witt | Weiß | white | 5 | 5 | 5 | 5 |
| I | Yiff | gib | give | 5 | 5 | 5 | 5 |
| $\varepsilon$ | Hett | hitze | heat | 5 | 5 | 5 | 5 |
| J | de Blott | der Schlamm | the mud | 5 | 5 | 5 | 5 |
| כ | ekj mott | ich muss | I must | 5 | 5 | 5 | 5 |
| J | de Brost (not said) | die Brust | the chest | 0 | 0 | 0 | 0 |
| U/I | huppshe (not said) /springe | springen | spring/jump | 5 | 0 | 5 | 5 |
| v | Buddel | Flasche | bottle | 0 | 5 | 5 | 5 |

## Appendix C

Praat Script

```
################
# This script is modified from a Crosswhite script.
# The purpose is to measure F0-F3 for a sound file that has been marked up
with a text grid.
# FO-F3 will be measured at five equally-spacce points for the duration of
a vowel.
# This only works if the sound file has been read into the Praat objects
box and selected/highlighted.
################
```

\# Identify the directory where files will be written/read.
directory\$ = "/Users/instructor/Desktop/untitled folder/"
\# Provide a label for whatever soundfile is selected in the Praat objects
box.
object_name\$ = selected\$ ("Sound")
\# Add appropriate label/headers to data file.
fileappend "'directory\$''object_name\$'-fivept.txt"
'Soundfile''tab\$' Interval' 'tab\$' LABEL' 'tab\$' 'DUR' 'tab\$''f0_a' 'tab\$' 'f0_b
''tab\$' 'f0_c''tab\$' 'f0_d''tab\$' 'f0_e''tab\$' 'f1_a''tab\$' 'f1_b''tab\$' 'f1_c''
tab\$' 'f1_d''tab\$' 'f1_e''tab\$' 'f2_a''tab\$''f2_b''tab\$''f2_c''tab\$''f2_d' 'ta
b\$' 'f2_e''tab\$' 'f3_a''tab\$''f3_b''tab\$''f3_c''tab\$''f3_d''tab\$' 'f3_e''newl
ine\$'
\# Ensure that the sound file is selected, and then create a formant
analysis for the selected sound file.
select Sound 'object_name\$'
To Formant (burg)... 0.0025555000 .02550
\# Ensure that the sound file is selected, and then create a pitch analysis
for the selected sound file.
select Sound 'object_name\$'
To Pitch... 0.0175600
\# Now we get the corresponding TextGrid and read it in:
Read from file... 'directory\$''object_name\$'. TextGrid
\# Now we query the TextGrid to find out how many intervals there are in
tier 1, storing
\# that number in a variable called "number_of_intervals". This is used to
set up a for loop
\# that will be used to go through each of the intervals and measure it (if
its label is non-null).
\# The number '1' following 'intervals...' identifies the relevant tier in
the textgrid.

```
        select TextGrid 'object_name$'
        number of intervals = Get number of intervals... 1
        for b from 1 to number_of_intervals
            select TextGrid 'object_name$'
                interval_label$ = Get label of interval... 1 'b'
        if interval_label$ <> ""
            begin_vowel = Get starting point... 1 'b'
            end_vowel = Get end point... 1 'b'
# Identify and provide labels for equally spaced points of an interval
# For n points, divide interval by n+1.
    one_sixth = (end_vowel - begin_vowel) / 6
    point_a = begin_vowel + one_sixth
    point_b = begin_vowel + (2 * one_sixth)
    point_c = begin_vowel + (3 * one_sixth)
    point_d = begin_vowel + (4 * one_sixth)
    point_e = begin_vowel + (5 * one_sixth)
    select Formant 'object_name$'
# Get F1 values at all points.
Linear
    f1_a = Get value at time... 1 'point_a' Hertz
    f1_b = Get value at time... 1 'point_b' Hertz
Linear
    f1_c = Get value at time... 1 'point_c' Hertz
Linear
    f1_d = Get value at time... 1 'point_d' Hertz
Linear
    f1_e = Get value at time... 1 'point_e' Hertz
Linear
# Get F2 values at all points.
Linear
    f2_a = Get value at time... 2 'point_a' Hertz
    f2_b = Get value at time... 2 'point_b' Hertz
Linear
    f2_c = Get value at time... 2 'point_c' Hertz
Linear
    f2_d = Get value at time... 2 'point_d' Hertz
Linear
    f2_e = Get value at time... 2 'point_e' Hertz
Linear
# Get F3 values at all points.
```




[^0]:    Map \#4: European Migration Route According to Penner (1976)

[^1]:    ${ }^{1}$ This dark schwa is actually syllabic when it is the realization of a final -er as in 'Vater'. [+sonorant] $\rightarrow$ [+syllabic]/. C $\mathrm{C}_{0} \_\mathrm{C}_{0}$. (Obrien, Fagan 2016).

[^2]:    ${ }^{3}$ No translation was found in Thiessen dictionary.

[^3]:    ${ }^{4}$ This was a joke made by the participants. There is no translation to be found. It was simply a play on words that they found delightful.

[^4]:    ${ }^{5}$ In order to avoid family-particular speech characteristics, Ladefoged recommends against working with all related speakers. With small speech communities such as this one, following Ladefoged's advice would render this study impossible (2011).

[^5]:    ${ }^{6}$ Man 2 did not say 'springe'.

[^6]:    ${ }^{7}$ Burns claims this is shown in Appendix C, but it was, in fact, not listed when referencing Appendix C (Burns 2016).

